



THE OPIUM MANUAL.

VOLUME VII (Benares).

DISTRICT PROCEDURE

(RULES)

FOR

THE GUIDANCE OF THE OFFICERS OF THE
BENARES OPIUM AGENCY.

PUBLISHED UNDER THE AUTHORITY OF THE BOARD OF REVENUE L. P.



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CHAPTER I.

ADMINISTRATIVE STAFF.

Board of Revenue the administrative head of the Department.

Benares Opium Agent the local administrator.

The Agent responsible to the Board.

1. The administrative head of the Opium Department is the Board of Revenue for the Lower Provinces of Bengal.

2. The local administrator for the United Provinces of Agra and Oudh is the Benares Opium Agent.

3. The Opium Agent is responsible to the Board of Revenue for every detail of the operations connected with his charge.

4. Under the provisions of Act XIII of 1857, Collectors of opium-producing districts *ex-officio* Deputy Opium Agents. Collectors of opium producing districts *ex-officio* Deputy Opium Agents. In practice, Deputy Opium Agents take no part in the routine work of the Department, but they are required to protect the interests of the Department within their districts, and to facilitate the transaction of official business between opium officers and officers of other Departments. To enable this to be done, it is essential that Opium officers should invariably work in accord with their respective Deputy Opium Agents, and consult them whenever necessary.

The gazetted officers of the Department.

5. The working administrative staff under the Opium Agent comprises:—

- (i) The Factory Superintendent.
- (ii) The Assistant Factory Superintendent.
- (iii) Sub-Deputy Opium Agents.
- (iv) Assistant Opium Agents.

The Factory Superintendent and the Assistant Factory Superintendent.

6. The Factory Superintendent is the officer in charge of the Ghazipur Factory, and is responsible to the Agent for everything connected with such charge.

The Factory Superintendent is also *ex-officio* Opium Examiner for the purposes of Act XIII of 1857.

The Assistant Factory Superintendent discharges such duties as are assigned to him by the Factory Superintendent.

7. A Sub-Deputy Opium Agent's charge and responsibility. His transfer how made. * A Sub-Deputy Opium Agent is the officer in charge of an opium division, and is responsible to the Agent for the entire management of his charge. Sub-Deputy Agents are transferred from one division to another, or from the Bihar to the Benares Agency and *vice versa*, only with the sanction of the Board of Revenue, and such transfers are gazetted under the orders of the Bengal Government.

staff below the rank of assistant, in which will be recorded the services, character, capabilities and punishments of airdars, the Factory guard, chaprasis, and others of the permanent staff.

7. The services shown in the above register will really be an abstract from the authorised service-book of each subordinate. These service-books will be kept up strictly in accordance with the rules laid down in Articles 816 to 822 of the Civil Service Regulations, 4th edition. The entries in the opening page should be re-attested or renewed, if necessary, every five years, the entries or alterations on that page being signed and dated by the Factory Superintendent. Lengthy personal certificates of character should not be entered in the service book, details of character being reserved for the service register. The cause, however, of a reduction in appointment, such as "inefficiency," or owing to "revision of establishment" should be noted. Leave of every description and every period of suspension or other interruption of service should be distinctly shown with full details of duration (and cause in case of suspension and whether period of suspension is to count towards pension), and attested by the Factory Superintendent who is personally responsible for the proper keeping up of these service books.

8. All cases of dismissal, removal or suspension of subordinates of the class eligible for pension drawing more than Rs. 20 a month will be reported to the Opium Agent for his sanction; but subordinates drawing Rs. 20 and under a month meriting dismissal, removal or suspension will be dealt with by the Factory Superintendent. In this connection the word "dismissal" is to be restricted to the case of a subordinate removed with disgrace, in other cases the word "removal" is to be used.

9. In connection therewith the rules (*vide* Appendix F to this Manual) published by the Board of Revenue, Lower Provinces, prescribing the procedure to be followed in proceedings connected with the dismissal, removal or other punishment of officers in the service of Government should be carefully attended to.

10. Appeals of the subordinate establishment against orders of punishment, dismissal or removal passed by the Factory Superintendent will lie to the Opium Agent, and all such appeals must be on a stamp paper of the value of one rupee, and they must be submitted through the Factory Superintendent, who is bound to forward such appeal to the Opium Agent, together with a copy of the orders appealed against, and any observations he may wish to offer, within three days of the presentation of such appeal. All such appeals must be submitted within one month of the receipt by the appellant of the order appealed against, otherwise they will not be considered. Copies of all orders of punishment, dismissal or removal affecting subordinates can be obtained by them free of cost.

11. In the case of subordinates drawing Rs. 20 and under no second appeal lies to the Board of Revenue.

In all other cases, against both original and appellate orders of the Opium Agent, an appeal lies to the Board if presented within thirty days of the receipt by the appellant of the orders appealed against. Such petitions must bear a court-fee stamp of Rs. 2. They must be presented to the Opium Agent, who will, as soon as possible after

receipt thereof, forward them to the Board together with a copy of the orders appealed against, and with such remarks as he may deem necessary.

12. The Factory Superintendent is authorised to incur all necessary and ordinary contingent expenditure in connection with the manufacture and provision of opium. Charges of an unusual or extraordinary nature will only be incurred with the previous sanction of the Agent. The powers of the Factory Superintendent in connection with the employment of temporary establishment are laid down in Chapter XI.

13. The duties connected with the Factory are comprised under the following heads:—

- (i) Control of treasury.
- (ii) Receipt and expenditure of leaf.
- (iii) Receipt and expenditure of trash.
- (iv) Import, examination, standard computation and storage of opium.
- (v) Manufacture and care of provision opium.
- (vi) Packing and despatching of provision opium.
- (vii) Manufacture and supply of excise opium.
- (viii) Disposal of contraband opium, and manufacture and supply of alkaloids.
- (ix) General stores and cups.
- (x) Miscellaneous departments and duties.
- (xi) Factory accounts and their check.

SECTION II.

Treasury and cash accounts.

14. The Factory Superintendent is in charge of the Factory treasury, for which he is responsible to the Opium Agent. For the conduct of treasury work he will have under him a treasurer and a parkhia.

15. The treasurer will be required to deposit, in Government promissory notes, a security of Rs. 2,000, and to execute the necessary security bond, which together with the deposit of promissory notes should be kept under double locks.

He must be competent to keep up the cash book in English, and also to prepare the lists of payments and cash accounts, and to conduct all other English work of the treasury.

16. The parkhia will be required to deposit a security in the sum of Rs. 100, which will be kept in the Post Office Savings Bank. The pass-book and security bond should be kept under double lock. His duties will be to assist the treasurer in counting and paying out money, in ensuring that no counterfeit coin is received into the treasury, and in keeping up the 'rokar' or cash-book in vernacular.

17. In taking over charge of the office of Factory Superintendent both the relieving and the relieved officers will be guided by Articles 19 and 47 of the Civil Account Code, Volume I (6th edition). The cash balance of the Factory treasury and the permanent advance will be verified and the charge report submitted direct to the Accountant-General, Bengal, a copy of the report being sent to the Opium Agent. The Collector of

Ghazipur will be informed of the charge, the relieved officer sending a facsimile of the relieving officer's signature to the Collector for the information of the Treasury Officer.

18. The Factory Superintendent will submit to the Opium Agent on the 11th of each month an application (Opium Form No. 2), for funds required in the following month. The Agent will obtain the necessary letter of credit on the Ghazipur Treasury in favour of the Factory Superintendent from the Accountant-General, United Provinces.

19. The Factory Superintendent will draw cheques against the credit obtained in his favour to meet the necessary requirements of the Factory, a letter of advice of the drawing of a cheque being forwarded at the same time, but separately, to the Treasury officer. The cheques will be issued in favour of the treasurer who will be responsible for the correctness of the sums received from the Revenue treasury and brought over to the Factory Treasury.

20. The amount received from the Revenue Treasury will be verified personally by the Factory Superintendent and will then be placed in the treasure chest which will be double locked, the key of one lock being with the Factory Superintendent and of the other with the treasurer. Similarly, the gate of the treasure room will be double locked, the Factory Superintendent and the treasurer retaining respectively the key of one of the locks. A sentry will be placed night and day over the treasure room.

21. Every sum of the treasury cash balance passed into or passed out of double locks will be registered in the treasurer's Daily Balance Sheet (A.-G., B., Form No. 184), and noted in the memorandum (Opium Form No. 9) kept in the treasure chest, with the initials of the Factory Superintendent and the treasurer.

22. The treasurer will not be permitted to hold in his separate custody out of the cash balance a sum larger than is necessary for the convenient transactions of the Factory; and this sum, together with the permanent advance and other miscellaneous deposits on account of unpaid bills, &c., must never be larger than the amount of the security deposited by him. The sum so kept in the separate custody of the treasurer will be in a treasure chest within the treasury room, and it should be seen and roughly verified by the Factory Superintendent daily before he closes the treasury.

23. A rough register (Factory Form No. 139A) will be kept by the treasurer in which the entire cash balances and deposits in the treasury, on various accounts, will be entered. This register will be inspected by the Factory Superintendent and initialled by him daily before he closes the treasury, after satisfying himself of the correctness of—

- (i) the treasury cash balance under double locks;
- (ii) the cash balance of miscellaneous accounts under double locks; and
- (iii) the cash balance in sole custody of the treasurer.

24. The cash book (A. G. B. Form No. 162) will be written up in English by the treasurer every day on which there are cash transactions, and the cash book, as well as the balance sheet, will be examined and signed by the Factory Superintendent after comparing with the

cash balance entry in the 'rokar' or vernacular cash-book, which will also be initialled by him. The cash balance will be written in words as well as in figures in all these accounts.

25. Payments from the treasury will only be made by the treasurer on proper bills in prescribed form which have been duly passed for payment by the Factory Superintendent as Treasury Officer, such payments being made to the persons in whose favour the bills have been endorsed by the Factory Superintendent. The treasurer will take the acknowledgment of the payee on the duplicate copy of the bill below the pay endorsement. After payment all bills must be stamped as 'Paid.' The treasurer, in addition to taking receipts on the bills, will also take the payee's acknowledgment in a separate receipt book, to be kept in the treasury (Factory Form No. 140).

26. The bills will then be forwarded to the Opium Agent's office where they will be examined, countersigned by the Opium Agent, and included in the compilation of the Agency cash accounts, to which they will be attached as vouchers.

27. Payments from the permanent advance will be made by the treasurer on cheques (Factory Form No. 140A) issued by the Factory Superintendent. The amounts thus paid will be entered in a separate register (Factory Form No. 140B) kept for the purpose in the treasury. Cheques against the permanent advance should be endorsed on the back by the payee before payment by the treasurer, who will then stamp the cheque with a 'paid' stamp showing date of payment, and initials of treasurer. He will then file these cheques as vouchers in support of his payments.

28. The Factory Accountant, by whom the contingent register of the Factory is kept, is responsible for the proper adjustment, before the close of the month, of payments made from the permanent advance. The amount of the permanent advance is to be fully recouped by drawing up bills on the last working day of each month as required in Article 83 of the Civil Account Code, Volume I.

29. The treasurer will prepare the first list of payments on the 10th, and the second list of payments and cash accounts on the last working day of each month. These will be signed by the Factory Superintendent and submitted to the Opium Agent.

30. The balances at the Factory treasury, and the permanent advance, will be verified by the Factory Superintendent on the last working day of each month; and the cash balance and expenditure reports of the Factory treasury will be submitted by the Factory Superintendent to the Accountant-General, Bengal, on the same day copies of the reports being submitted to the Opium Agent.

31. The Factory Superintendent will be guided in all matters affecting treasury procedure, which are not herein specified, by the rules contained in Chapter XVIII, Part II of the Civil Account Code, Volume I (sixth edition).

32. The account books kept at the Factory treasury, including those of the Factory Superintendent's office, such as the contingent register, &c., will be examined periodically by the Opium Agent, or by an Accountant specially deputed by him, to ensure that the accounts are being kept in strict accordance with the rules herein laid down.

CHAPTER II.

LEAF.

SECTION I.

Supply of leaf and weigment at Factory.

22. The Factory Superintendent will submit annually to the Opium Agent, by the 16th July, an indent for poppy flower leaf required for the ensuing year. In framing this indent the following points will be considered:—

- (i) The extent of provision manufacture prescribed by Government for the season for which the leaf is required.
- (ii) The stock likely to remain in hand after the current season's operations.
- (iii) The maintaining of a reserve equal to the requirements of half an ordinary season.

The Factory Superintendent will further suggest in his covering memorandum the allotments to the several divisions based on the quantity and quality of the deliveries of past years.

34. On receipt of this indent the Agent will scrutinise it and make the necessary allotments, informing each Sub-Deputy Agent of the quantity of leaf required from his division.

35. On receipt of this indent from the Agent, the Sub-Deputy Agent will make the sub-divisional allotments for his division, informing each Assistant of the quantity allotted to his charge. Further instructions regarding the supply of leaf affecting district officers will be found in Vol. VII of the Manual.

36. Poppy flower leaf will be forwarded to the Factory packed in lids, baskets, or gunny cylinders, which will be serially numbered from No. 1 upwards for each sub-division. Where lids or baskets are used they should hold 20 seers each, and where gunny cylinders are used they should hold one maund each. Lids or baskets should be used in preference, where procurable, as affording greater security to the leaf.

37. Each chalan will consist of 200 baskets or 100 gunny cylinders (100 maunds), unless it be the last chalan of a sub-division, and will be accompanied to the Factory by a zilladar or a barkandaz who will bring with him an invoice in duplicate (Opium Form No. 97) showing the details of the chalans entrusted to his care. Simultaneously with its despatch the despatching officer will forward by post to the Factory Superintendent the chalan register (Opium Form No. 120) in English and vernacular, with the results of the district classification and

weighment of the leaf duly filled in. These documents will be made over to the Assistant in charge of the Leaf Department by the Factory Accountant, who will take that officer's acknowledgment for them.

38. Before leaf begins to arrive, the Factory Superintendent will appoint one or more Assistants, permanent or temporary, as leaf weighment officers, and he will tell off or appoint for each such Assistant the following establishment:—

One muharrir.

One weighman.

One parkhia, who should be a permanent sirdar.

All the operations connected with the receipt and storage of leaf will be immediately superintended by the Assistant Factory Superintendent until the manufacture of cakes begins, when he will be relieved of these duties.

39. On the arrival of a chalan of leaf, the lids, baskets or cylinders will be arranged, class by class, in stacks (of not more than six tiers each in case of baskets, 10 for lids, and three tiers each in case of cylinders) in the godown or other place appointed for their reception, each chalan being kept distinct. The separation into classes will be an easy matter as leaf of the chandi class is distinguished by white wooden labels, of the first class by red labels, and of the second class by purple labels. The baskets or cylinders will then be counted by the Assistant in charge of the Leaf Department, who will fill up columns 1 to 8 of his daily import register (Factory Form No. 1), noting the name of the sub-division from which they have come, the number of the chalan, the total number of lids, baskets or cylinders, the condition of the chalan, whether wet, dry, in good order or damaged, the efficiency of the packing, particulars of receipts granted to zilladars, and the net weight of leaf as per chalan.

40. If the Assistant finds everything in order he will at once grant a receipt (counterfoil of invoice Opium Form No. 97) showing date of release, countersigned by the Factory Superintendent, to the zilladar or barkandaz in charge of the chalan, who will then be at liberty to return to his sub-division.

41. The leaf chalans will be weighed off as soon after their arrival at the Factory as possible, and in the order of their arrival as shown in the import register. The Assistant in charge of the Leaf Department will be held responsible for allotting the chalans for weighment to the weighing Assistants in their proper order.

42. Each morning before work begins, the scales and weights to be used will be tested by the head weighman in the presence of the weighing Assistants. The chalans will then be weighed, each lid, basket or cylinder singly. The exact Factory gross weight of leaf and lid (basket or cylinder) will, in every instance, be entered in column 6 of the chalan register, and the increase or decrease on the district weighment in columns 7 or 8. The rest of the columns and the totals will be filled up in the Factory Superintendent's office, under the supervision of the Factory Accountant.

43. After each basket is placed on the scale and the weight called out, the parkhia will open out the leaf and search for foreign substances; he will satisfy himself that the leaf is sound, and not damp, mildewed or grub-eaten, and that no leaf of a previous year's manufacture has been included.

The weighing Assistant, who will have been furnished with specimen leaf for his guidance, will then, with the help of the parkhia, satisfy himself that the quality agrees generally with the district officer's classification, and will pass the basket.

44. When leaf is being weighed the Assistant will have all leaf chalaned as "chandi" set aside for thorough examination in accordance with the rules on the subject under the heading of Sorting and Storage—Section II. He will at the same time make the necessary entries in columns 1 to 5 of the chandi examination report (Factory Form No. 2.)

45. During the progress of the weighments the weighing Assistant will check-weigh at random at least 5 per cent. of empty lids, cylinders or baskets of each chalan, and will enter the result with his initials in the remarks column of the chalan register. Preference in selection should be given to such baskets or cylinders as may show a large increase or decrease. Such errors in the tare of baskets or cylinders will be entered in the vernacular copy of the leaf chalan register in the Factory Superintendent's office in red ink during the computation of chalans for the information of the District Officer.

46. Should any considerable portion of the leaf in a basket be found to be of a lower class to that assigned by the District Officer, or should the discrepancy between the Factory and the district weighment and classification be of so glaring or unusual a nature as to indicate fraud or gross carelessness, a note of such discrepancy will be made against the basket in the remark column of the chalan register, and the basket will be set aside to be inspected by the Factory Superintendent. If that officer considers the matter of sufficient importance, he will report it to the Agent, who will either decide the case on its merits or communicate with the District Officer concerned. In all such cases the baskets should be held in deposit pending the final disposal of the reference.

47. Except in such cases of unusual discrepancy, where the Agent alone may direct a change of classification or weight for final payment, the District Officer's classification and weight will be accepted for computation of value; but in all cases of differences of classification which are not of such a glaring nature as to necessitate a reference, a note should be made to that effect by the Assistant Factory Superintendent in the remark column of the English chalan register, the note being copied into the vernacular copy by the Factory Superintendent's office for the information of the District Officer.

48. At the end of the day's weighments the Assistant in charge of the Leaf Department will take charge of the chalan registers from the weighing officers, and will forward to the Factory Superintendent's office such of them as have no objections pending against them, taking the acknowledgment of the Factory Accountant for them in a receipt

book kept for the purpose (Factory Form No. 3). He will also take charge of the chandi examination reports pertaining to each chalan, which he will retain for filling up the remaining columns after the sorting.

49. The Assistant in charge of the Leaf Department will at the same time submit his Leaf Import Register and the invoices and railway receipts of the chalans received to the Factory Superintendent's office. The Leaf Import Register will be checked by the Factory Accountant and returned to him, and the invoices will be filed in the office. The railway receipts will be used by the Factory Accountant in writing up his register of freight paid on leaf chalans (Factory Form No. 4).

SECTION II.

Sorting and Storage.

50. In addition to the district classification of leaf, which is roughly verified by the weighing Assistant and parkhia, a further and more careful examination and classification of leaf will be made for Factory purposes on the day following that on which the leaf has been weighed. The lids, baskets or cylinders immediately after weighing will be removed to the sorting room set apart for this purpose, and will be stacked in stacks of three maunds for each sorter. The chandi baskets or cylinders which have been set aside by the weighing Assistant in accordance with Rule 44 will be removed to a separate place, and will be stacked in a similar manner by sub-divisions.

51. The Assistant Factory Superintendent will arrange for the employment of sorters at the rate of one man to every three maunds of leaf, and these sorters will be selected from the roll of cake-makers, the best men being assigned to the examination of 'chandi' leaf specially set aside.

52. In sorting leaf great care will be taken that all mildewed, grub-eaten and damp leaf is set aside, also leaf that has been doubled over in packing. Leaf badly mildewed, grub-eaten or fermented from damp will be altogether rejected as useless, but partially mildewed or grub-eaten leaf will have the affected portions torn off and rejected, the sound portions being exposed to the sun, if necessary, and stored. Leaf that is damp, but not fermented, will be exposed in a shady place until quite dry and fit for sorting. Leaf that is doubled over will be stored away separately until the east winds and rains set in, when they will regain their shape and can be brought into use.

53. The sound leaf will be divided by the sorters into four classes :—

- (i) Chandi, leaf of a light colour, of a smooth surface, of thin substance, and of an even texture, measuring from 7 to 10 inches in diameter.

- (ii) Sattai, leaf of a light colour, but of a less even texture than class (i) and somewhat smaller in size; also pieces of chandi leaf.
- (iii) Dawan, leaf somewhat thicker, of slightly less even texture, and of a colour a trifle darker than those of class (i), but of about the same size.
- (iv) Gata, strong thick leaf somewhat rough on the surface, and of a colour considerably darker than that of classes (i) and (iii), and measuring from 5 to 10 inches in diameter.

54. As the sorting of the baskets, other than those set aside as chandi, is proceeding, the leaf will be carried to the leaf godowns, where it will be arranged, class by class, on narkat mats spread upon the racks. The classes will be apportioned to different parts of the leaf godowns, and the name of each class will be prominently shown on a board hung up against the racks.

The Assistant Factory Superintendent will ensure, by a system of tickets, that proper check is kept over the coolies carrying leaf, that the classes are not mixed, and that the right class is taken to the portion of the godown allotted to it. He will further keep such check over the sorting as to ensure that the weighing Assistants have done their duty properly in sending for ordinary sorting only baskets which have not been classed as chandi by the district officers.

55. The baskets set aside as containing 'chandi' will be sorted in a similar manner, but the leaf will not be removed until the Assistant in charge of leaf has examined the sorting personally and recorded his examination in column G of the chandi examination report; all baskets containing at least 75 per cent. of chandi having the word 'passed', and those containing less than this quantity having the word 'rejected', noted against them, the Assistant initialling each such entry.

The Assistant Factory Superintendent will then check generally the examination of the Leaf Department Assistant, and, if, in his opinion the appraisement is satisfactory, he will sign at the foot of the form and the leaf will then be removed to the leaf godown. If the Assistant Factory Superintendent considers the appraisement of the Leaf Department Assistant open to question, the matter will be brought to the notice of the Factory Superintendent for settlement.

The chandi examination report, thus signed, will then be submitted to the Factory Superintendent's office for the countersignature of the Factory Superintendent, the Leaf Department Assistant taking a receipt for it in the same manner as for leaf chalan registers.

56. After the leaf has been stored it will (except during the prevalence of hot westerly winds, when leaf is very brittle and should be handled as little as possible) be regularly turned on the racks by boys engaged for the purpose, the turnings of each block being recorded in Factory Form No. 61 in a manner similar to that adopted for recording the turning of provision opium cakes. All grub-eaten and mildewed leaf will be separated. From those partially injured the affected parts will be torn off and rejected, and the sound portions stored for petty repairs, while those which are badly injured will be altogether rejected. Should, however, grubs be plentiful, or should the storage accommodation be inferior, the leaf must be more thoroughly overhauled and

ked. In this matter the Factory Superintendent must be guided by the circumstances of the season and the general condition of the leaf.

57. At the end of each day's sorting all the broken and useless pieces of leaf (choor) that have accumulated during the day will be collected under the orders of the Assistant in charge of the Leaf Department in a place set apart for the purpose, and will be weighed in his presence and heaped up for subsequent sale by auction with the sanction of the Agent. The result of weighment will be shown in a register (Factory Form No. 5), which will be submitted every morning for the inspection of the Factory Superintendent, who will see that the daily wastage is regularly recorded, and will control it if he considers that the percentage is unnecessarily high.

58. At a convenient time, usually early in March and before the new season's leaf begins to come in, stock will be taken by an Assistant specially deputed for the purpose and unconnected with the Leaf Department, of the entire quantity of leaf on hand; and the result of stock-taking, which will be recorded in the stock book (Factory Form No. 6), will be duly reported to the Agent. If the Agent is satisfied as to the stock-taking and the explanations given for any increase or deficiency, he will direct the adjustment of the stock book of leaf, and the Factory Superintendent will cause the adjustment to be made by issuing authority to the Assistant in charge in the Factory order book.

SECTION III.

Computation of value.

59. The Factory Accountant will, on receipt of the chalan registers, enter them in his "Register of leaf chalans received and computed" (Factory Form No. 7). He will then distribute the English and vernacular copies to the clerks and muharrirs respectively for the necessary check, addition of totals, filling in the net Factory weight of leaf, and calculations of value, which should be made on the district weighment and classification unless the increase or decrease in weight is above 5 per cent., or unless by the orders of the Agent, the district officer's classification has been altered. The clerk and the muharrir checking the English and vernacular copies of the same register will compare the figures of the two copies with each other. All errors found and every increase or decrease above 5 per cent., will be entered in a discrepancy statement (Factory Form No. 8), which will be submitted at the close of the day's work for the orders of the Factory Superintendent before the value is calculated.

60. Discrepancies in weight may be usually assigned to one or other of the following causes: increase, due to taking extra weight at the district scales, to compensate for dryage in transit; decrease, due to dryage in transit, specially in leaf which has been more or less freshly made; decrease, due to loss of leaf by leakage in transit owing

to insecure packing. In dealing with discrepancy statements the Factory Superintendent's attention should be directed to the distance travelled by the chalans, the time intervening between the district and Factory weighments, the conditions of weather as affecting dryage, and the security of packing as noticed in the Leaf Department or by the weighing Assistant. If the general results of the chalan are satisfactory and the variations in weight as shown in the discrepancy statement are trifling, the Factory Superintendent will allow the district weighments to stand. In cases of exceptional variations, the Factory Superintendent will call for the explanation of the district officer before passing orders. If the explanation is so unsatisfactory as not to justify the passing of a basket at the district weight or classification, the orders of the Agent should be taken before any alteration is made.

61. After the above calculations have been made and the discrepancies disposed of as directed in the two preceding rules, the clerks and muharrirs will then proceed to fill up the abstract of the chalan register by calculating the value of the leaf at the sanctioned rate of Rs. 11-4 a maund for chandi, Rs. 10 a maund for first class, and Rs. 7-8 a maund for the second class.

62. As each pair of English and vernacular chalan register is disposed of, the clerk and the muharrir will each sign both the copies of the register and the chaudi examination report, in token of their having checked and compared them together. They will then make over the registers and the chandi report to the head clerk of the office, who will enter the details of the calculations and totals in the 'abstract of leaf chalans' (Factory Form No. 9), and will compare the gross totals with the figures entered in the register of leaf chalans computed.

63. The Factory Accountant will then examine personally the English and vernacular copies, and will check 5 percent., at least, of the calculations in the body of the registers, and all the gross valuation calculations. If he is satisfied as to the accuracy of the check and of the calculations, he will sign the documents himself and submit them for the signature of the Factory Superintendent.

64. The chalan registers will finally be countersigned by the Opium Agent, and the vernacular copy will be sent from the Agent's office by registered post to the district officers concerned, to enable them to prepare their final adjustment accounts of cultivators. The English copies will be retained in the Agent's office, to be audited under the superintendence of the Head Accountant.

65. At the close of each day's work the Factory Accountant will submit the register of leaf chalans computed to the Factory Superintendent for inspection and signature. The Factory Superintendent's signature will be the authority of the leaf Assistant to write up the receipt columns of his stock-book of leaf (Factory Form No. 6) from the register of chalans received and computed which will be sent to him daily by the Factory Accountant for the purpose. The leaf Assistant will initial this register in the proper column in token of having written up his stock-book.

SECTION IV.

Issue and Expenditure.

66. Leaf will be issued from the Leaf Department on indent only (Factory Form No. 10), which should be drawn up by the Assistant in charge of the department for which it is required and countersigned by the Factory Superintendent. The leaf indent will be kept up in the form of a register and initialled in the proper columns by the Leaf Department Assistant and the indenting Assistants after which it will be returned to the Assistant Factory Superintendent, for safe custody. The entries in the leaf indent register will serve as vouchers for the leaf issued.

67. Leaf will be indented for and issued on account of (a) the the manufacture of cakes; (b) suttai, kassai and general repairs of cakes; (c) petty repairs of cakes.

68. At the commencement of the caking season the Factory Superintendent will determine and publish in Factory orders (after considering the probable outturn of the season's provision opium) the proportion of old and new leaf to be used in making up the bundles (bhagas). It may be found necessary to re-adjust this proportion of old to new leaf during manufacture in the event of there being any marked difference between the estimated and the actual deliveries of opium. The proportions should be so fixed and regulated as, if possible, just to exhaust the old stock by the end of manufacture. The proportions of 'dawan' and 'gata' (or second and third) classes will also be laid down. These will depend on the quantity of each class in store, and in fixing their proportions, the old leaf in store should be accounted as 'gata' (or third class), and, as far as may be possible, the proportions of dawan and gata (or second and third class) should be about equal.

69. The quantity of dry leaf allowed for the construction of the shell of each cake at first manufacture is 5 chitaks. As, however, the weight of the leaf is influenced from day to day during the rains and the prevalence of easterly winds, by the amount of moisture in the atmosphere, it will be necessary to ascertain each day the extra rate of leaf, if any, to be added on this account.

70. For this purpose not less than six seers of leaf, half being leaf of the current season, and half being old leaf of the preceding season, will be sent every day at noon, while manufacture continues, by the Assistant in charge of the Leaf Department, to the laboratory. The Assistant Opium Examiner will then cause $2\frac{1}{2}$ seers of each kind of leaf (viz., old and new) to be accurately weighed out, and to be placed separately on steam tables to be dried. After drying for at least three hours, they will be re-weighed in the Assistant Examiner's presence and the results will be recorded by him in the leaf assay forms (Factory Form No. 11).

71. The total compensation to be made for each $2\frac{1}{2}$ seers will be the loss in weight between the first and second of the above two weighments, minus an allowance of 5 per cent. (=2 chitaks in $2\frac{1}{2}$

seers), on account of the normal moisture of the leaf. The compensation to be allowed to each bhaga will be calculated in grains in respect of (a) old leaf and (b) new leaf, and the entire compensation on account of both descriptions of leaf will be added to each bhaga in new leaf only.

72. The Assistant Opium Examiner will then obtain the initials of the Factory Superintendent and the Assistant Factory Superintendent to the results of assay, and will forward to the Assistant in charge of the Leaf Department the duplicate of the leaf assay form showing the compensation and the total quantity of leaf to be used in each bhaga the next day, and this will be filed in the Leaf Department as the authority for the expenditure of additional leaf used in making up the bhagas. In weighing the leaf bhagas the amount of compensation to be given will be represented by the addition to the weight of small metal tickets stamped with the number of grains represented by each. The Assistant in charge will obtain by indent a sufficient supply of these grain pieces from the Store Department before the commencement of manufacture.

73. On receipt of the leaf assay result from the laboratory and the indent from the Assistant Factory Superintendent, the Assistant in charge of the Leaf Department will prepare the next day the requisite number of bhagas for the caking of the day following. To each scale will be told off a man to weigh the leaf, and a boy to tie up the bhagas. The weights provided at each scale will be two—one equal to the weight of the old leaf or the gata class, and the other of 5 chitaks, and the metal compensation ticket prescribed by the preceding rule will be conspicuously hung on the end of the scale beam holding the weights. Each scale will bear a distinguishing number, and the corresponding number will be shown in a portion of the godown, which will be set aside to hold the weighed bhagas of this scale after they are tied. For every six scales one additional scale will be worked as a test scale, the bhagas of each scale being weighed off in groups of five at a time at the proper test scale before being deposited in the portions of the godown set aside to receive them.

74. It will be the duty of the Assistant in charge of the Leaf Department each day to check-weigh, open out, and examine, not less than $\frac{1}{2}$ per cent. of the bhagas at each scale, and to see that the leaf of each class and kind (old and new) has been used in the assigned proportions. In this work he will be assisted by two sirdars, and, if necessary, by a temporary assistant. The Factory Superintendent will also inspect the work daily and will satisfy himself, by examining and check-weighing bhagas, that the work is being properly carried on.

75. On the afternoon of the day before the bhagas are required for caking, the Assistant Factory Superintendent will depute special sirdars to count over the number of bhagas indented for, and to have them conveyed on bamboo barrows, each holding 100 bhagas placed on edge, to the wetting place, where, under the supervision of an Assistant from the caking department, specially told off by the Assistant Factory Superintendent, they will be damped in the manner directed in the two following rules. When a Sunday or a holiday intervenes, the Assistant Factory Superintendent will arrange that the wetting is done

on the afternoon before the leaf is required for caking, and not on the afternoon of the last working day.

76. The bhagas will be taken up from the barrows at the leaf-wetting vat, five or six at a time, by a coolie who will hold them between the palms of his hand, edges vertical, and dip them into the water; the immersion should last about two or three seconds and be complete. After immersion the bhagas will be returned to the barrow, and be at once taken to the leaf-dripping shed, where they will be stacked on end on a grating of wood-work, side by side (like books on a shelf), in a single tier, and will so remain until required for use the next day. Next morning, should the upper portion of the leaf be found to have dried too much, the bhagas will be sprinkled with a watering-can with a fine rose.

77. For sattai, 2.25 kachas of chandi and sattai leaf will be allowed for each cake, plus in each case the necessary allowance as compensation on account of atmospheric moisture, which will be determined in accordance with the instructions laid down in the preceding rules of this section.

78. The chandi leaf required for sattai will be picked by selected cakemakers in the period intervening between the close of manufacture and the beginning of sattai, and tied up in bundles each containing 110 leaves, which will be the number required for the sattai of 100 cakes, the allotted task of one cakemaker. On the day previous to the leaf being required, the Assistant Factory Superintendent will submit his indent through the Factory Superintendent, and the Assistant in charge of the Leaf Department will, on receipt of the indent and assay report for compensation, weigh out to the sirdar deputed by the Assistant Factory Superintendent the total quantity required consisting of chandi and sattai leaf. The number of bundles of chandi leaf to be issued will be arrived at by dividing the number of cakes to be sattai by 100, and the balance of leaf required to make up the full weight, including compensation, will be made up of sattai leaf.

79. As soon as each day's sattai work is over, the cake-makers engaged in it will be employed under the supervision of an Assistant from the Caking Department, deputed by the Assistant Factory Superintendent, to damp the parcels of chandi leaf for next day's use. This they will do by opening out each parcel and hand-sprinkling each leaf with water. When the weather is very wet, the leaf will not be damped until the morning of the day of which they are required for use. The sattai leaf will be damped at the same time. When a holiday or Sunday intervenes, the leaf will be damped on the day preceding that on which it is required, and not on the last working day.

80. For general repairs and kassai at the time of sattai, as much leaf of each class will be issued (as shown on the indent) as may be required, an account being kept of the quantity used for each purpose daily.

81. All repairs to cakes other than those at the time of sattai are known as 'petty repairs,' and for this purpose Assistants in charge of cake godowns will indent, through the Assistant Factory Superintendent and Factory Superintendent, for the necessary quantity of leaf whenever such repairs are required.

82. In addition to his stock book of leaf, the Assistant in charge of the Leaf Department will keep up accurate records (Factory Forms No. 12 and No. 13) of leaf expended during manufacture and satta. The number of bhagas left over will be intimated to him by the Assistant Factory Superintendent, and the choor returned from the Caking Department will be weighed back by him, and an accurate account will be struck of the quantities expended under each head as shown by the different columns. These forms, as well as the leaf indents and leaf assay form will serve as authorities from which the stock book of the department will be written up at the close of the day's work.

83. The stock book of leaf will be checked daily, under the supervision of the Factory Accountant, all receipts being checked with the register of chalans received and computed passed by the Factory Superintendent; and all expenditure being checked with the indent register bearing the countersignature of the Factory Superintendent. These supporting vouchers will be initialled by the Factory Accountant who will also initial the stock book daily in token of the entries having been duly checked.

CHAPTER III.

TRASH.

SECTION I.

Supply and receipt of trash.

84. The manner of indenting for trash and allotting the quantities to be supplied by divisions or sub-divisions is precisely the same as that laid down for leaf in Rules 33 to 35, Chapter II.

85. The Factory Superintendent will supply, on the indent of District Officers to whom allotments for trash have been made, special bags for the conveyance of trash to the Factory. These bags will have cloth labels sewn on them before issue, such labels being printed in bold type with the necessary headings, in order that the name of sub-division, serial number of bag and weight of trash may be filled in at the district scales. Such entries should only be made on these labels, and nothing should either be written or stencilled on the bags.

86. District Officers will make over the requisite number of bags to lambardars to whom trash contracts have been given, and these bags will be filled up by the contractors and brought to the district weighing scales for weightment and despatch to the Factory.

87. All weightments of trash should be undertaken by District Officers as soon as the opium weightments permit, and the despatches should be made as rapidly as possible so as to admit of the Factory weightments being completed not later than the 15th June and before the rains set in.

88. For despatch to the Factory the trash will be made up into chalangas, the bags of which will be serially numbered. A chalan will ordinarily consist of the delivery of one contractor, if it does not exceed 100 bags; otherwise it should be restricted to 100 bags the excess over that number making up another chalan.

89. Each consignment of trash to the Factory will be accompanied by a zilladar or barkandaz, but not more than 300 bags should be sent in charge of one man. Simultaneously with the despatch of the consignment the despatching officer will forward by post to the Factory Superintendent the chalan registers in English and vernacular. These documents will be made over to the Assistant in charge of the Trash Department by the head clerk, who will take that officer's acknowledgment for them as in the case of leaf chalan registers. The Assistant will register these chalangas in his daily import register (Factory Form No. 14), and will be responsible that the chalangas are weighed in the order of their arrival at the Factory.

90. The zilladar or barkandaz in charge of a consignment will bring with him an invoice in duplicate (Opium Form No. 97.) The Assistant will compare the items of the consignment with the entries in the invoice and will, if he finds all correct, make over the counterfoil to the zilladar as a receipt. All such receipts should be signed by the Factory Superintendent before being made over to the zilladars. Should the Factory Superintendent deem the zilladar's presence necessary for the identification of the bags, he will direct him to remain at the Factory until the weighment of his consignment is done. In such cases the receipt will not be made over to the zilladar until the weighment of his consignment has been completed.

91. Trash will be weighed and appraised under the system laid down in these rules by special Assistants, permanent or temporary, called trash weighment officers, who will be appointed by the Factory Superintendent. With each Assistant there will be one muharri, one weighman to a scale, and two sirdars, and the requisite staff of coolies for weighing and storing, and women for sifting purposes, as laid down in the Chapter on temporary establishments. The zilladar or barkandaz in charge of the chalan being weighed will, as a rule, be present at the scales throughout the time his consignment is being weighed.

92. The trash will be weighed bag by bag. As a counterpoise, an empty bag of the same size and make as the bags containing the consignment will be placed upon the weight pan of the scale. As each bag is weighed, the weighment officer will satisfy himself that the beam is even, that the weights are all on the weight pan only and that the weight called by the weighman is correct. He will then write in the proper column of the chalan register, against the number borne by the bag, which will be called out by a boy specially told off for the purpose, the weight called out by the weighman. The muharri will simultaneously enter the weight of the bag against the number in the vernacular copy of the same register.

93. As the weighment proceeds, the weighment officer will take out at random from each consignment, not less than 5 per cent. of the bags. These will be emptied out, bag by bag, and any foreign matter, such as broken poppy heads, stalks, earth, stones, potsherds, &c., will be separated from the trash by women by means of "scoops" in the presence of the weighment officer, and under the supervision of one of his sirdars. The foreign matter found in the selected bags of each consignment will be separately weighed by the weighment officer, who will enter both the weight of the foreign matter and the serial number and weight of the sample bag of trash in which it was found, in memorandum A at the foot of the chalan register. If more than one consignment has a broken multiple of twenty bags and work is likely to be delayed, the 5 per cent. may be made up by calculating on the combined consignments so long as one or more bags are taken from each consignment.

94. When fraudulent admixture of foreign matter is evident, the matter will be brought to the notice of the Factory Superintendent who may, if he considers it necessary, direct the trash to be sifted first through fine wire sieves to eliminate fine sand or mud, and

then by means of "scoops." In this case the converse procedure will be adopted, the good trash remaining being weighed, and the difference being reckoned as foreign matter. The chalan registers thus dealt with will be noted on with his initials by the Factory Superintendent as his authority for the procedure.

- 95. The foreign matter taken from the selected bags of each consignment will be tied up in a small bag bearing a distinguishing number, which the weighment officer will also enter with full particulars in the register of foreign matter (Factory Form No. 15). These small bags will be made over to the Assistant in charge of the Trash Department, by whom they will be set aside for inspection by the Factory Superintendent. The Factory Superintendent will then direct such samples as call for special notice to be kept in deposit under lock and key by the Assistant in charge of the Trash Department for future reference. The remaining samples will be destroyed.

96. As each bag leaves the scale, its contents will be emptied outside the godown allotted for its reception, and carefully examined by the weighment officer's second sirdar. If found to be in sound condition, the trash will be conveyed into the godown in baskets and there stored on narkat or bamboo matting over a bedding (not less than 18 inches thick) of the refuse siftings obtained from the trash cleaned for the previous season's packing. If any portion of it is found to be unfit for use, it will at once be separated and brought to the notice of the weighment officer, who will weigh it and enter the weight in memorandum B at foot of the chalan register. The rejection will then be set aside for the inspection of the Factory Superintendent, who will note his orders for its disposal against the memorandum in the chalan register.

97. At the close of the day's work the weighment officer will sign both the English and vernacular chalan registers, and will make them over to the Assistant in charge of the Trash Department, who will forward them to the Factory Accountant, taking an acknowledgment for them. He will at the same time submit his import register together with the invoices and railway receipts of the chalans received to the Factory Superintendent's office. The import register will be checked by the Factory Accountant and returned to him, the invoices will be filed in the office. From the railway receipts the Factory Accountant will have the register of freight paid on trash chalan written up (Factory Form No. 14).

98. The Factory Accountant's department will then total the columns of the chalan register, and calculate the proportionate deduction to be made for foreign matter, entering the results in memorandum B, and will post up the abstract of trash chalans (Factory Form No. 16.) The chalan registers will then be submitted for the signature of the Factory Superintendent, and after they are countersigned by the Opium Agent, as in the case of leaf chalans, the vernacular copy will be despatched from Agent's office to the district officer concerned, and the English copy will be filed in the Agent's office for subsequent audit.

99. The Factory Accountant will submit to the Factory Superintendent daily during the receipt of trash, the register of trash chalans received and computed (Factory Form No. 18) showing the gross amount

of trash passed by him each day as received into the Factory. The Factory Superintendent will countersign and forward the register to the Assistant in charge of the Trash Department, who will credit in the account of uncleaned trash in his stock book of trash (Factory Form No. 17) the quantity shown in the register, and return the latter, with his initials in the proper column, to the Factory Superintendent's office in token of having written up his stock book.

SECTION II.

Direct delivery of trash at the Factory.

100. Trash has been supplied in past years mainly from the Ghazipur Division, under the contract system, by lambardars, who delivered at the Factory the quantity allotted to each. The contracts were looked upon as prizes by lambardars for good work done by them in the cultivation of poppy and the production of leaf. This system is open to objection for many reasons. The lambardars themselves, looking upon the contracts as a monopoly of the Ghazipur Division, have resorted largely to adulteration, in order to increase weight, and are apt to resent strict appraisement under the impression that the Factory is dependent on them and therefore bound to receive what is tendered; besides, direct dealings between cultivators and the Factory staff are open to serious objection; the principle of the Factory depending on only one division for its trash is at fault; and, finally, it is only fair to cultivators of other divisions to extend to them the privileges of trash supply which is a source of profit. For these reasons the monopoly of the Ghazipur Division has been gradually reduced, with the ultimate object of distributing the trash supply over several of the opium divisions not too remote from the Factory, and of finally doing away with the practice of receiving trash at the Factory direct from lambardar-contractors.

101. The rules in section I of this Chapter have been framed for the delivery of trash under the system which is gradually to become uniform throughout the Agency. As, however, a portion of the trash is still delivered by contractors at the Factory, the rules in this section are intended to meet the requirements of a practice which, though ultimately to be abandoned, is still partially in force. The main principles in the weightment of trash brought by contractors are precisely the same as those laid down in section I of this Chapter for trash sent in chalans. The following rules embody slight modifications in certain details of procedure; in all other respects the rules in section I will apply.

102. Contracts for the direct supply of trash at the Factory will only be given in the Ghazipur and Zamania sub-divisions of the Ghazipur Division. Some time in March the Sub-Deputy Agent of Ghazipur will submit to the Factory Superintendent a list (Opium Form No. 125) in serial order of those contractors in each sub-division whose supply, in his opinion, cannot conveniently be weighed off in the district. This list will also show the quantity of trash contracted

for by each person. The Factory Superintendent will then supply tin tickets stamped with numbers in serial order corresponding to the numbers borne by the contractors on the list of each sub-division. These tickets will be distributed to the contractors by the Sub-Deputy Agent, in order to ensure their identity at the Factory when they bring in their trash.

103. The above list will be retained in the Factory office for the necessary check, by the Factory Accountant, of the deliveries of trash, and a copy will be furnished to the Assistant in charge of the Trash Department for the use of the weighment officers.

104. Contractors delivering trash at the Factory must themselves be present, or they should depute their authorised agents, otherwise their trash will not be weighed in. They must be present at the scales throughout the time their trash is being weighed.

105. On arrival of a consignment at the Factory, the contractor or his agent should at once inform the Assistant in charge of the Trash Department, and produce his contract and metal ticket in proof of his identity. The Assistant will compare the document with the list of contracts furnished by the Sub-Deputy Agent, and should everything appear in order he will permit the bags to be brought into the Factory and placed on the spot indicated by him.

106. For the entry of weighment figures and weight of foreign matter, the trash weighment register (Factory Forms Nos. 19 and 19a) will be used in place of the chalan register.

107. On the delivery of every consignment of trash by a contractor he will be furnished with a receipt in Factory Form No. 20 by the Assistant in charge of the Trash Department for the number of bags of trash delivered. The contractor may, if he desires, hand over the empty bags at the Factory for which he is accountable to the Sub-Deputy Agent, the receipt (Factory Form No. 20) granted to him will show separately in words and figures the number of full bags delivered, of empty bags returned at the Factory and of empty bags retained by him. The Assistant in charge of the Trash Department will keep a careful record (Factory Form No. 21) of empty bags taken over from contractors, for subsequent check of the Sub-Deputy Agent's account of empty bags supplied to him from the Factory.

108. On receipt of the trash weighment registers by the Factory Accountant after the day's weighments, he will cause the weight of the bags of each consignment to be added up, the proportionate deduction on account of foreign matter from the total weight of each consignment to be calculated, and the net weight of serviceable trash on which payment is due to be ascertained. All these details will be shown in the register of trash chalans received and computed (Factory Form No. 18) which will then be submitted for the inspection and signature of the Factory Superintendent.

109. The Factory Accountant will also keep up for each sub-division a ledger (Factory Form No. 22) for trash supplied by contractors, a separate page being assigned to each contractor. This ledger will be written up daily from the weighment registers. A memorandum (Factory Form No. 23) compiled from the ledger, showing the amount of trash delivered by each contractor up to date and

the amount yet deliverable by him, will be furnished to the weighment officer, who will refer to it to ascertain when each man's contract is about to be completed. This memorandum will be sent by the Factory Accountant every morning through the Assistant in charge of the Trash Department, and will be received back from him for the necessary postings when trash weighments for the day are completed.

110. The weighment officer should inform each contractor when his contract is about to be completed, and should not receive in the last instalment more than would give, by a rough calculation for foreign matter, the amount still remaining to complete the contract. In checking deliveries, excess up to 5 per cent. will be accepted by the Factory Accountant for payment in the ordinary way. If the excess is over 5 per cent. the matter will be brought to the notice of the Factory Superintendent in an objection statement (Factory Form No. 8), and that officer will pass his orders according to the circumstances of the case, by either accepting excess where it is trifling, or directing the contractor to make his own arrangements for getting rid of the whole of the excess to some other contractor under whose account delivery of it can be taken. In these cases the attention of the weighment officer should be drawn to his oversight in accepting a large excess.

111. When a contractor, after supplying a certain quantity of trash, declares his inability to fulfil his contract, the weighment officer will make a note to that effect against the man's name in the abstract of the ledger for the information of the Factory Accountant.

112. On the close of each week the Factory Accountant will prepare and submit to the Factory Superintendent a list (Factory Forms Nos. 24 and 24a) in English and vernacular of those contractors who have completed their contracts during the week, or have expressed their inability to supply any more trash. These lists will be signed by the Factory Superintendent, and submitted to the Agent for counter-signature and transmission of the vernacular copy to the District Officer, the English copy being retained for subsequent audit with the trash weighment registers. The District Officer will, on receipt of the vernacular list, proceed to prepare his trash patsaltamam for making payments to the contractors.

SECTION III.

Cleaning and expenditure of trash.

113. When the rains are well over and the weather perfectly dry (generally about the 1st November), the cleaning of the trash will begin under the effective supervision of the Assistant in charge of the Trash Department, and will be continued on dry days only until the entire trash of the season is cleaned. By dry days is meant days on which the humidity of the atmosphere does not exceed 75°, saturation being represented by 100°. After a fall of rain, trash cleaning will not be resumed for at least three clear days (or 72 hours), to admit of all surroundings being perfectly dry.

114. In cleaning, the trash will first be passed through sieves of a quarter inch meshes, and will thus be cleared of foreign matter. Poppy leaves which are too large to pass through the meshes will be broken up into trash, and again put through the sieves, or will be sifted in "scoops" by women. When uncleaned trash is carried from the godown to the sieves, care will be exercised that no damp, mildewed, musty or caked trash is included.

115. At the end of the day's work the quantity of sifted trash and refuse from each sieve will be heaped up separately and conveniently in close proximity, to enable the Assistant in charge and his sirdars to check the tale of work done by each set of four women (which should be about 20 maunds daily of clean trash). The Assistant with the help of his sirdars will check the work by the height and circumference of the heaps, and will enter in the proper column of his trash cleaning day book (Factory Form No. 25) the number of sieves that have worked. The partially cleaned trash will then be carried by the women and heaped up under cover for the night close to the winnowing machines, and the refuse will be thrown away in the place allotted for it.

116. The next day the whole of the above trash will be again cleaned by means of winnowing machines and freed of any remaining dust and earthy matter, and the entire quantity will be measured in boxes of known capacity (the weight of a few boxes being checked by actual weighment), and conveyed to the storing godowns as fit for packing purposes. The Assistant in charge will then fully write up his trash cleaning day book, and will credit in his stock book of trash the actual quantity of cleaned trash obtained from the winnowing machines, and will debit on the side of the stock book reserved for uncleaned trash a quantity that will be made up of the amount of cleaned trash obtained, *plus* $\frac{3}{4}$ ths of this amount as representing the refuse discarded. This calculation is based on actual experiment which has demonstrated that on an average about 36 per cent. of refuse is discarded from every 100 maunds of uncleaned trash before it is brought to the stage fit for packing purposes. The Assistant's day book will be submitted to the Factory Superintendent for his inspection and initials daily while the work of trash cleaning is in progress.

117. For use in caking, sattai and petty repairs, a finer description of trash will be prepared, when required, by passing cleaned trash through sieves with one-eighth inch meshes. The quantity remaining on the sieve will be returned to store. The siftings will be cleared from dust and earthy matter by being thrown upon a sieve of $\frac{1}{4}$ th inch meshes. Whatever passes through this sieve will be rejected, and the trash remaining on the sieve will be issued for use.

118. Cleaned trash will be supplied from the Trash Department on indent only (Factory Form No. 26), which will be drawn up by the Assistant in charge of the Department for which it is required, and countersigned by the Factory Superintendent. These indents will be filed by the Assistant in charge of the Trash Department as vouchers in support of the expenditure shown in his stock book of trash.

119. Each day during the rainy season, and at other seasons of the year whenever rain has fallen, the trash godowns will be carefully

examined by the trash sirdar, assisted by special beldars, so that any leakage may be at once detected. Where the godowns are tiled-roofed and are thus peculiarly liable to leakage, iron rods will, as an additional precaution, be thrust into the heart of the stacks through holes in the walls of the godown at a convenient height from the ground. These rods will be drawn daily during the rains, and at other seasons after rain has fallen, and will be handled throughout their entire length by the Assistant in charge of the Trash Department, so that any sign of heating may be at once detected. Should heating or leakage be discovered, the Assistant will immediately report the matter in writing to the Factory Superintendent, who will investigate the case and cause the damp trash to be removed. The Factory Superintendent will at the same time take steps to have the godown examined, and the necessary repairs at once effected through the proper channel.

120. As it is not possible to take stock of the entire quantity of trash by actual weighment, owing to the large bulk of the prescribed reserve of at least half a season's requirements being always on hand, a very approximate annual verification is possible by first using up in the packing the old season's cleaned trash that is shown on the stock book. To ensure accuracy in arriving at the result of stock-taking a separate record should be kept, when packing begins, showing the old season's stock and the daily issues from this stock until it is exhausted. Any excess or deficiency will then be apparent. While this separate record is kept care will have to be taken that the new season's cleaned trash is not mixed up with the old stock. The separate record of verification will be inspected and initialled by the Factory Superintendent daily. This annual verification of stock will be reported to the Agent before the 31st March in each year, with necessary explanations regarding discrepancies, if any, and his orders taken for the adjustment of the stock book.

CHAPTER IV.

IMPORT OF OPIUM.

SECTION I.

Receipt of opium chalans.

121. Some time before the first chalan of opium of the season is expected to arrive at the Factory, the Factory Superintendent will appoint, from among the permanent staff, an Assistant who will be sent on deputation to Benares to superintend the transhipment of opium chalans from the broad to the metre guage wagons. This Assistant will submit daily a report of his work in Factory Form 27 to the Factory Superintendent.

The Factory Superintendent will at the same time appoint one of the permanent Assistants to carry on the duties of Import Officer.

It will be the duty of this Assistant to receive all opium chalans on their arrival at the Factory, and he will be assisted, if necessary, by a temporary Assistant.

122. The first duty of the Import Officer will be to submit, through the Factory Superintendent, an indent on the Store Department for scales, weights and other necessary apparatus for the receipt, weighing and examination of opium chalans; and to have all necessary registers and forms in readiness for the work of the season.

123. On receipt of the chalan registers of opium, and all papers in connection therewith, the Factory Accountant will forward them to the Import Officer, whose acknowledgment he will take in the receipt book kept in the office for the purpose.

124. Chalans of opium are consigned to the Factory either by cart or by rail. On arrival of a chalan by cart the Import Officer or his Assistant will, in the presence of the zilladar in charge, examine generally the consignment, and indicate the place in the import shed where it is to be stacked. The unloading and stacking will then be conducted under the supervision of the zilladar. In the case of chalans arriving by rail, the Import Officer or his Assistant will examine first the seals and looks of the wagons, and if they are satisfactory he will have the wagons opened and the contents examined and counted in the presence of the zilladar in charge, when the order will be given for the chalan to be stacked in the place indicated, under the supervision of the zilladar. Jars and bags will be stacked in separate batches to facilitate counting.

125. A complete chalan having been received in the import shed, the Import Officer or his Assistant will, in company with the zilladar in charge, examine carefully the seals of the bags, the seals and covers

of all sound jars, and will have the jars further tested by hand below the waist where it is hidden by the basket, so as to satisfy himself that there has been no tampering. The jars and bags will also be counted and their number checked with the number shown in the invoice of the chalan (Opium Form No. 97), which the zilladar will bring with him from the district. In the case of small bags or pots, which have been packed together in a large basket or bag, the outer seal will be broken and the contents counted in the zilladar's presence and similarly checked with the invoice of chalan. If everything is satisfactory the Import Officer will fill up columns 1 to 26 of his import register (Factory Form 28), showing the number of jars, bags and pots received, according to their classes and other details.

126. If any jars have been refilled on the road or are found broken, or if any bags have been damaged, he will at once have these removed to the scale near his table, and will enter them serially in the "damaged consignment" register (Factory Form No. 29). He will also note in his daily report book for the orders of the Factory Superintendent any shortcomings he may observe in the packing or despatching of the consignment under his notice.

127. Before the zilladar in charge is freed from responsibility the jars and bags separated under Rule 126 will be check-weighed in his presence to ascertain whether any opium has been abstracted or lost on the road, the zilladar's statement as to damage being concisely recorded in the remarks column. The remaining columns of the damaged consignment register will be filled up, and in the event of its being impossible from the nature of the breakage to weigh a jar separately from the straw and basket, the whole will be weighed together, and the average weight of straw and basket deducted. The average weight will be obtained by selecting at random and weighing at least three baskets with straw from the same chalan.

128. On the completion of the day's receipts the Import Officer will grant each zilladar who came in charge of a chalan passed as satisfactory a discharge certificate (Opium Form No. 97), which will be countersigned by the Factory Superintendent. The zilladars will then be free to return to their districts.

129. At the close of the day's work the Import Officer will total up vertically and laterally columns 3 to 25 of the opium import register, and columns 6 and 7 of the damaged consignment register, and will submit both registers together with the invoices of chalans and railway receipts received through the zilladars to the Factory Superintendent's office for the preparation of account 1 of the Factory stock account and check by the Factory Accountant.

130. The first two registers will, after check by the Factory Accountant and inspection by the Factory Superintendent, be returned to the Import Officer. The invoices will be filed in the office for subsequent use.

From the railway receipts the Factory Accountant will cause to be written up daily his register of freight paid on opium chalans (Factory Form No. 4).

131. At the close of the day the Import Officer will also submit for the Factory Superintendent's inspection and orders his report book.

The Factory Superintendent will note any circumstances requiring immediate action and will, if necessary, bring such circumstances to the notice of the Agent with a view to the prevention of shortcomings, whether in packing or transit, during the current season.

132. The Import Officer will be in charge of the opium chalang from the time of their receipt in the Factory until the opium passes into the malkhana and an acquittance is obtained from the officer in charge.

SECTION II.*

Weightment of Opium.

133. The Factory Superintendent will fix the date for the weighing of chalang preparatory to parakh, and will publish his orders in the Factory order book. The Import Officer will then make his preparations for the work to begin in accordance with these orders and will prepare the programme of weightments and parakh (Factory Form No. 30) which he will daily submit to the Factory Superintendent for inspection and approval the day before the proposed weightments commence.

134. The opium chalang will be weighed off by one or more extra Assistants, temporarily attached to the Factory for the purpose, who will be called the weighing officers. To each weighing officer will be attached a muharrir to write up the vernacular chalang register.

135. Each day, before beginning work, the weighing officer will examine his scale beam and scale pans, and satisfy himself that they are in perfect working order. He will then carefully test all the weights belonging to his scale, by comparing them, one by one, with the spare set of weights kept under lock and key by the Import Officer. Any shortcomings in either scales or weights should at once be brought to the notice of the Factory Superintendent, who will cause other scales or weights to be issued before weightment is begun.

136. The Import Officer will hand over to the weighing officers before work begins every morning the chalang and tare registers of the chalang each officer is to weigh. The chalang will, as a rule, be taken for weightment in the order of their arrival at the Factory, but the Factory Superintendent may, at his discretion, order for weightment chalang of later arrival should difficulty regarding accommodation, or the consistence requirements for caking, render it necessary. Also, at the commencement of a season, the first chalang of all sub-divisions will have the preference in weightment in the order of their arrival so as to enable the Factory to give to each officer early intimation of the results of his classification. A chalang containing jars or bags wet by rain or other cause will on no account be brought to the scale until every jar and bag in it is thoroughly dry again, and the Import Officer will invariably make a note against every jar and bag so wetted, in the last column of the chalang register, before making the chalang over for weightment.

* The rules in this and the next two sections refer primarily to the weightment of jars and bags included in the chalang register for good opium. They, however, equally apply, *mutatis mutandis*, to the weightment of jars and pots of all other descriptions of opium. Small pots should be weighed on a scale of a suitable size.

137. Each jar or bag will be weighed singly. As each jar or bag is brought to the scale, the weighing officer will notice the seal and fastenings; and if these appear to have been insecurely or improperly made or to have been tampered with he will immediately bring the matter to the notice of the Factory Superintendent. With regard to the weightment of jars, the coolies will carry each one to the scale in its basket; it will then be removed from the basket, and placed upon a soft pad, where it will be dusted before being lifted into the scale; and the weighing officer will be careful to see that neither jars nor bags are roughly handled at the scale. The straw from the baskets will be carried outside the building, and there filled into sacks, and removed the same day to the leaf compound so as to minimise the risk of fire.

138. The weighing officer will see that each jar or bag is weighed with an even beam, that the weights are all on one side of the scales, and that the weighman's hands and feet are clear of the scale pans. The weighman will call out the weight, and will chalk it in Hindi figures on the jar or bag, and the weighing officer will at the same time enter in column 6 of the chalan register the weight of the jar or bag, and in columns 7 and 8 any increase or decrease as compared with the district weightment as given in column 5. The muharrir will simultaneously make the corresponding entries in the vernacular copy of the register. In the case of a jar it will then be carefully replaced in its basket, and will be laid out, with the other jars and bags of the chalan, in the place indicated by the Import Officer.

139. Any increase over the district weight, any decrease in excess of one seer, or any marked exception from the general decrease in the weights of the rest of the jars or bags in the chalan of the same class, will be noted by the weighing officer in the tabular statement on the first page of the chalan register. Before making this entry in the register he will carefully compare the district tare weight of the jar or bag as entered in column 3 of the chalan register with the corresponding figures in the tare register, and on the jar or bag tickets. If any discrepancy exists, he will note it on the tare register, and will write the word "compared" in the remarks column of the chalan register.

140. During the Factory Superintendent's daily rounds of inspection, the weighing or import officer will bring to his notice jars or bags which have shown a marked discrepancy between the district and Factory weight. If the cause of the discrepancy cannot be ascertained from a comparison of the marks on the jar or bag with the entries in the chalan and tare registers, the opium, in the case of jars, will, in the Factory Superintendent's presence, be carefully removed and placed in tagars, and (a) the opium from each jar, and (b) each jar with its lid and cloth cover, will be separately weighed, in order to ascertain whether the error is in the jar weight, or in the opium weight, as recorded by the District Officer. The tagars into which the opium has been transferred will at the same time be ticketed with the number, class, &c., of the jar to which the opium belongs, and will be treated in the same manner as the rest of the chalan. In the case of bags there will be no necessity to transfer the opium into tagars, as the weight of all bags is fairly uniform. A note of the result of such examination will be made on the chalan register for communication to the

District Officer, the necessary action being taken by the Factory Accountant as laid down in section VI of this Chapter.

141. The Factory Superintendent will also, during his rounds of inspection, test-weigh some of the jars and bags weighed by each weighing officer to satisfy himself that the weighment is being conducted accurately, and he will initial each such test-weighment in the chalan register. He should endeavour to test-weigh about one per cent. of the consignments taken at random.

142. During the progress of weighments the weighing officer will select at random from different chalaus two per cent. of the jars allotted to him for the day's weighment, and will have them marked distinctively, a style being used to prevent the marks being obliterated during the process of washing. The names of the sub-divisions to which these jars belong, their numbers and tare weights will be entered in a register (Factory Form No. 31), and the Import Officer will see that these marked jars are returned again after they have been emptied of their contents in the malkhana, washed (without being broken), and dried. The weighing officer will then check-weigh them, entering the weights in the proper column of the empty jar register, and comparing them with the weight recorded in the district tare registers. Any unusual difference found should at once be brought to the notice of the Factory Superintendent by the weighing officer. In addition to selecting jars at random, such jars as show a marked increase or decrease over district weighments should also be set aside for washing. The Import Officer will be held responsible that this work is intelligently carried out.

143. When a jar or bag is so damaged either in transit or at the Factory that it cannot be weighed, the weighing officer will note the fact by writing the letters D. T. or D. F., as the case may be, in the column of remarks of the chalan register. He will be guided in this duty by referring to the damaged consignment register of the Import Officer. Jars or bags damaged at the Factory, which would not appear in the above register, will be weighed by the weighing officer according to instructions laid down in the preceding section, Rule 127, and the net weight of jar or bag and opium, after deducting average weight of basket and straw, in the case of jars, will be entered in the column of remarks of the chalan register. Both in the case of jars and bags, damaged in transit and at the Factory, columns 6, 7, and 8 of the chalan register will be left blank. Should the damaged consignment register not show the average weight of basket and straw for the particular chalan, the broken jar must remain unweighed and the order of the Factory Superintendent taken, who may for his own satisfaction cause the opium to be taken out and check-weighed in his presence.

144. Good and inferior opium, dhoi, scrapings and pasowa will immediately after weighment be removed to the parakh ground and arranged there by muharrirs, under the superintendence of the Import Officer, and in accordance with instructions laid down in section (iii) of this Chapter, for parakh the next morning by the Opium Examiner. Jars, or pots of asamiwar, suspected, or burnt opium will be removed after weighment to the laboratory, and the Import Officer will take from the Assistant Opium Examiner a receipt for them in a book kept for the purpose (Factory Form No. 32). In the case of damaged

bags or jars of opium, or tagars of opium, when a jar has been emptied out for verification of the weight of the empty jar, the Import Officer will retain them in the import shed until the next morning when, just before parakh, they will be deposited in their proper places on the parakh ground.

145. At the conclusion of the weighment of each chalan, the weighing officer will enter the names of the muharrir and dandidar in the place prescribed on the first page of the chalan register, and will himself sign the English and vernacular copies of the register and at the close of the day's work will make them over to the Import Officer, who will be responsible for them until after the chalan has been parakhed, when he will forward the English copy to the laboratory, and the vernacular copy with the tare register to the Factory Accountant, in each case taking the acknowledgment of the responsible officer in a receipt book kept for the purpose.

146. The weighing officer will make no erasures in the chalan registers; mistakes made by him should be run through with pen and ink, the correct figures written immediately above, and his initials affixed to every such correction. At the close of each day he will submit to the Factory Superintendent; in the report book supplied to him for the purpose, a brief note of the day's work, mentioning in it any points connected with the chalans weighed by him which he considers deserving of notice.

147. The Import Officer will, at the close of the day's work, look up all weights and collect the scale beams near his table before leaving the Factory. He will also forward to the Assistant Opium Examiner, for each chalan of opium weighed (except asamiwar, suspected, and burnt), a copy of assay slip in triplicate (Factory Form No. 33) with the heading written up, and the memorandum at foot, showing the number of jars and bags damaged in transit and the condition of packing, duly filled in and signed by him in the left hand or "original" copy only.

SECTION III.

Hand parakh of opium.

148. As a rule the jars, bags and pots weighed off each day will be parakhed on the next working day, the parakh beginning in the early morning.

149. For this purpose, on the day previous to parakh, the jars and bags, as they are weighed, will be arranged by muharrirs according to chalans under the supervision of the Import Officer in verandahs or other space set apart by the Factory Superintendent as the parakh ground, and they will remain there for the night. If for want of verandah room the jars and bags have to be left for the night in the open yard, they must be carefully protected by being covered with tarpaulins.

150. For parakh, the jars and bags of each chalan will be arranged, class by class, according to the District Officer's classification ;

and the jars and bags of each class will be arranged in the order in which they are entered in the chalan register.

151. Parakh will be conducted by the Factory Superintendent and by the Assistant Opium Examiner, should the Factory Superintendent see fit to associate him in the work. The words "Opium Examiner" as hereafter used in this section will denote either the Factory Superintendent or the Assistant Opium Examiner.

152. Everything being ready and the Factory Superintendent on the parakh ground, the Import Officer will supervise the opening of the bags and the removal of the jar covers and lids, chalan by chalan. In the case of bags the outer gunny bag will be removed, the inner bag will then be opened and the mouth fixed round a wooden stand so as to enable the hand to be freely inserted into the opium. As the jars and bags are opened, a staff of specially trained coolies will go down the line of each chalan to search the opium for potsherds and other foreign substances. The opium in each jar and bag will thus undergo a mixing before hand-parakh. In the case of jars care will be taken to wipe the surface of the opium, if necessary, with a damp cloth so as to remove all dust or mould; and any crust which may appear to be too dirty or lumpy, or of too high a consistence to amalgamate with the rest of the contents, will be set aside in tagars and ticketed with a large letter "L" before being sent into the malkhana, where it will be stored in the vat set apart for lewa opium.

153. Following the searchers the Opium Examiner, with the assistance of one of the permanent parkhias, will examine each chalan in its turn, each jar and bag being taken singly, in the order in which they are entered in the parakh paper (Factory Form No. 34), beginning, as regards each chalan, with the jars or bags of the highest class according to the District Officer's classification. Those chalans that are lying out in the open yard will be parakhed first, so that immediately on receipt of the assay slip they may be moved into the malkhana, and thus escape lengthened exposure to the sun. The Import Officer will ensure that the parakh papers are prepared and in his custody the evening before parakh, a separate parakh paper being drawn up for each chalan in the Factory Superintendent's Office from the chalan registers. The jars and bags will be entered in them, class by class, commencing with the highest class.

154. A muharrir in attendance will call out the number of each jar or bag in its turn; and the parkhia thrusting his hand into the opium will take out a fair average sample. The Opium Examiner having, with the help of the parkhia, satisfied himself as to the quality of the opium as regards colour, aroma and texture (a plate being used for rubbing down if necessary), the parkhia will call out its class for the approval of the Examiner. A specimen of the size of a large walnut will then be thrown by the parkhia into a tagar or patri bearing a distinguishing mark, and the Opium Examiner will enter, in column 2 of the parakh paper, the class the jar or bag has been adjudged; and in column 5 the distinguishing mark of the tagar or patri. At the same time the muharrir will chalk on the jar or bag the class mark assigned to it.

If the steam tables show that the parkhia is frequently "out" in his parakh, the Examiner should make him draw single specimens from some of the jars and bags daily for assay until mistakes are less frequent. He will find this an excellent method of controlling estimate by touch.

155. Where the opium, in the opinion of the Examiner, should not be used for the central mass of the cakes, but is fit for abkari or lewa, the muharrir will draw a chalk line round the neck of the jar or bag and will write the letter A or L, as the case may be, after the class mark, the Examiner at the same time entering the same letter in the remark column of the parakh paper. Should the Examiner consider the opium in the jar or bag, besides being set aside for abkari or lewa, liable also to a penalty on account of the presence of some impurity, or of an undue quantity of pasewa, he will enter such penalty in column 3 or 4 of the parakh paper; and if he has reason to think that a specimen of the jar or bag, if thrown into the tagar containing good specimens of the class, would affect the assay of the tagar, he will send the specimen separately on a patri.

156. In each tagar will be placed not more than twelve specimens taken from as many jars or bags, all of which are adjudged by the Examiner to belong to the same class; a fresh tagar or patri will then be brought into use, a patri being used only when less than three specimens have to be sent. A fresh tagar or patri will also be brought into use as often as the examination of each new class, as classified by the District Officer, is commenced, as well as with a new chalan. As each tagar or patri has its proper number of specimens thrown into it, it will be placed in a box with duplicate keys, one of which will remain with the import officer, and the other with a responsible officer in the laboratory. As soon as a box is full it will be locked and sent to the laboratory, and when the examination of the chalan is over, the examiner will initial and date the parakh paper, will enter upon it the name of the parkhia, and the number of tagars and patris comprised in the chalan, and will send it, locked up in the last box of the chalan, to the laboratory. He may also, if he desires, note at the foot of the paper for future reference his views on the character of the opium examined and on the District Officer's classification.

157. The penalty that an Opium Examiner may inflict on a jar or bag of opium sent in as good by the District Officer will not exceed 8 kachas in a seer of 64 kachas, or one-eighth of the full amount. If, in the opinion of the Examiner, the opium is liable to a heavier penalty than 8 kachas, the jar or bag will be set aside for examination in the presence of the Opium Agent. Jars or bags on which penalties have been inflicted by the Assistant Opium Examiner will invariably be examined by the Examiner himself before they are removed from the parakh ground.

158. The penalty inflicted by the Examiner on the opium of a jar or bag passed as good by the District Officer is not deducted from the value of the opium due to cultivators (*vide* Rule 221, section VI of this Chapter). Penalties inflicted by the Examiner will tend to show the quality of a District Officer's work, and act as a check on it.

159. At the conclusion of each day's parakh the Import Officer will forward to the Factory Accountant the daily programme of weighment and parakh (Factory Form No. 30), together with the paper of the chalaus examined, as directed in Rule 145 of the preceding section. The Factory Accountant, on receipt of the papers, will compare the vernacular copies of chalans with the daily programme submitted by the Import Officer, and satisfy himself that the papers are in order. He will then proceed to distribute the papers to the clerks for necessary computation as directed in section VI of this Chapter.

160. The net amount of opium obtained by computation will be utilised in writing up the receipt side of the malkhana stock book (Factory Form No. 35), and accounts Nos. 2, 3 and 4 of the Factory stock account, due allowance being made for confiscations of all descriptions, and for burnt opium set aside for the extraction of alkaloids. In writing up the receipt side of the malkhana stock book a deduction of five chitaks per jar, two and-a-half chitaks per bag, and half chitak per pot or small bag will be made on account of adhesion in importing.

SECTION IV.

Testing and assay of opium.

161. As each box from the parakh ground reaches the laboratory, the Assistant in charge will open it and make a list of the tagars and patris, and on the arrival of the last box of the chalan will compare their number and their marks with the entries made by the Examiner in column 5 and in the memorandum at the head of the parakh paper.

162. The samples in each tagar or patri will then be thoroughly hand-mixed, and from each resulting mass will be taken a specimen weighing about 100 grains. This will be boiled for three minutes in about an ounce and-a-half of distilled water in a small copper saucepan over a charcoal fire, being meanwhile broken down and well stirred with a glass rod. The decoction will then be poured into a filter of Nipal paper resting in a tin funnel, the filtrate being received into a small beaker bearing a ticket with the tagar or patri mark, and standing in a small trough of water in order to allow the filtrate to cool.

163. As soon as the filtrates belonging to a chalan have sufficiently cooled, the glasses, together with the filters in their funnels, will be brought to the Assistant Opium Examiner, or to the laboratory Assistant (in the absence of the Assistant Opium Examiner on parakh duty), if the Factory Superintendent considers that Assistant competent to perform the duty independently, who will apply the iodine test for starch to the contents of each glass in turn. Should the filtration in any case be unduly slow, while the test shows the opium to be free from starch, the filtrate will be tested for gum or mucilage.

164. Should the solution obtained from any group of jars and bags indicate the presence of starch, or fail to filter readily, the Assistant Opium Examiner (or the laboratory Assistant in the absence of that officer) will at once bring the matter to the notice of the Factory Superintendent, who will have the jars and bags of that group sent to the laboratory, and will cause each one to be tested separately. When the jar or bag in fault is discovered, the whole of the opium will be carefully taken out in parcels of 4 or 5 seers at a time. Each such parcel will then be separately tested, and such part of the opium as may be found to be fit for use will be released and sent to the malkhana for the lewa opium vat. Such part as may be found unfit for use will be sent to the deposit room of the laboratory, and will be kept there until the Agent's orders have been passed regarding it, the Factory Superintendent noting, with his initials, in the remarks column of the parakh paper and the chalan register, against the number of the jar or bag, the quantity of opium that has been set aside for impurity and held in deposit.

165. In addition to the specimens referred to in Rule 162, there will also be taken from each tagar three specimens of 100 grains each, which will be very accurately weighed on assay scales by assay tellers under the supervision of the laboratory Assistant. In the case of a patri which contains samples from a maximum of two jars or bags only, a single specimen of 100 grains will be sufficient. As each sample is weighed, it will be placed upon a separate porcelain plate on which will be written in ink the tagar or patri mark, and the name of the weigher. The plates will then be placed upon the steam table, and all the samples thoroughly dried.

166. When all the specimens of a chalan are thoroughly reduced to dry powder, the Assistant Opium Examiner will begin the weighing, the result being recorded by the laboratory Assistant in columns 5 and 7 of the assay register (Factory Form No. 36). In the case of tagars, the plates will be brought from the steam tables to the assay scale in groups of three, all three bearing the same distinguishing mark and representing one tagar. When the specimens from the tagars of a chalan are weighed off, those from the patris will be weighed. The mean consistence of the specimens will be shown in column 8, and the consistence at which the opium is to be paid for in column 9. The figures in column 9 will be obtained from those in column 8, fractions of a degree below .50 being rejected, and .50 and above being counted as a full degree. The Assistant Opium Examiner will be held responsible that the assay scales are in perfect working order, and to this end he should test them every morning before beginning work. He will also be responsible that no pankhas are used during the actual weightment of any specimens at the assay scale.

167. When any two out of the three samples of a tagar differ by more than three-fourths of a degree, all three specimens will be rejected and fresh samples will be taken from the tagar, the word "repeated" being written against the tagar in the assay register, and the fresh results being recorded at foot of the entries of the chalan in the register. When all three specimens are within three-fourths of a degree, but the mean consistence of the tagar or patri exceeds the highest, or falls below the lowest, degree of the class assigned by the

Opium Examiner by more than two degrees, then fresh samples will be drawn from all the jars or bags represented by the tagar or patri, and the fresh tagar or patri assayed as laid down above. The results thus obtained will be shown at the foot of the assay register, and on the assay slip the word "repeated" will be written against the group for the information of the district officer.

168. The chalan having been assayed and tested as above, the laboratory Assistant will complete column 5 of the parakh paper from the assay register and will then prepare the first or original copy of the assay slip, already received from the Import Officer, showing (a) the district parakh of the jars and bags and the number in each class; (b) the Factory parakh of the jars and bags represented by each tagar or patri and the number of samples (representing jars and bags) in each; (c) the assay consistence of the jars and bags represented by each tagar or patri; (d) the jars or bags on which fines have been imposed; and (e) the result of the test for starch or gum, &c. The assay slip will then be made over to a clerk, who will copy the entries of assay, &c., from the original into the duplicate and triplicate copies. As each assay slip is ready, it will be signed by the Assistant Opium Examiner, and will be submitted at once with the parakh paper to the Factory Superintendent who, if he finds everything in order, will initial the assay slip on all three copies and return it. The Assistant Opium Examiner will then retain the first, or original, copy for despatch by the same day's post to the District Officer concerned for his information and guidance. He will forward the duplicate copy to the Assistant Factory Superintendent as his authority for receiving into his charge in the malkhana the jars, bags and pots that have passed the assay; and the triplicate he will forward with the parakh paper to the Import Officer.

169. The Import Officer, immediately on receipt of the papers, will have the figures of assay prominently written in red chalk by a muharrir on the ticket of each jar and on each bag, the muharrir signing his name on the back of the parakh paper, on the conclusion of the work, in token of its having been correctly performed. The Import Officer or his Assistant will then check the assay figures on the jars and bags with the parakh paper and will initial it and return it at once to the laboratory for disposal, retaining the triplicate copy of the assay slip.

170. When the district officer's classification is markedly incorrect, he will be informed at once by telegram of the result of the assay. Telegraphic intimation of the result of assay of first chalans will also be sent to those officers who may ask for it.

171. Having completed the testing and assay of the day's chalans, the laboratory Assistant will fill in columns 10 to 13 of the English copy of the chalan register, obtaining the figures for the first column (showing the assay consistence of each jar and bag) from the assay register, and those for the other three columns (showing the parakhing officer's objections as to quality) from the parakh paper. This done, the Assistant Examiner will check the entries made by the laboratory Assistant and will sign the chalan register in proof of its correctness. He will then forward the assay register, the English chalan registers

written up in accordance with the preceding rules, and the parakh papers to the Factory Accountant, taking a receipt for them in a book kept for the purpose.

172. The Factory Accountant will at once take steps to have the calculations in the assay register checked, and the entries in the column showing the consistence at which the opium is to be paid compared with the entries of assay shown in the parakh paper. He will himself check at least 5 per cent. of the work and after initialling all the papers in token of accuracy, will return the assay register and the parakh papers to the Assistant Opium Examiner before the laboratory closes the next day, in order that the assay register may be brought into use on the day following. To enable this work to be done efficiently two sets of assay registers will be in use, each set being taken on alternate days. Discrepancies found in the assay registers or parakh papers by the Factory Accountant's department will be entered in an objection statement and submitted to the Factory Superintendent for orders.

173. The Assistant Opium Examiner and laboratory Assistant will be careful that no one who is not on duty is admitted into the laboratory while opium assays are being conducted; and that there is no communication between the workpeople of the laboratory and the parakh ground establishment or zilladars.

SECTION V.

Inferior and other descriptions of opium.

174. The receipt and weightment at the Factory of all descriptions of opium, pasewa, dhoi, &c., not included under the head "good opium," will be conducted, *mutatis mutandis*, in the manner laid down for good opium in sections I and II of this Chapter.

175. *Inferior opium.*—This is of two kinds—(i) "pani-amez" or opium with which water has been mixed; (ii) "pasewa-amez," or opium either adulterated with pasewa or from which the pasewa has been insufficiently separated by the cultivators.

176. The jars of inferior opium will be laid out after weightment on the parakh ground, under the superintendence of the Import Officer, in the same manner as jars and bags of good opium. These jars will also be parakhed and assayed in the manner laid down in sections III and IV of this Chapter. The examination, however, of all inferior and other descriptions of opium must be conducted by the Opium Examiner himself, and the duty will, under no circumstances, be delegated to the Assistant Opium Examiner.

177. As the penalties (other than confiscations) adjudged upon such opium for the presence of water or excess of pasewa, will be levied from the cultivators in calculating the price to be paid to them for their opium, special care must be taken by the Opium Examiner in their assessment. All such penalties will be entered by him against the jars on which they are imposed in the column of the parakh paper

provided for the purpose, and the Examiner will note also against the jars on the parakh paper the letters A or L as he considers it to be fit for abkari or lewa manufacture, the muharrir with him drawing a chalk ring round the necks of all such jars and writing the letter A or L, as the case may be, after the class mark.

178. As a general rule opium classed by the District Officers as "inferior" will be considered as unfit for the central mass of provision cakes, and will be set aside for lewa or abkari manufacture as laid down above. But if, in the Opium Examiner's opinion, the District Officer's classification is manifestly incorrect and he passes any jar without a penalty, the opium of the jar will be treated like all other good opium, and will be passed into the malkhana as such.

179. In all cases of inferior opium chalans, District Officers will be furnished, for their information, with an assay slip in the same manner as for good opium chalans as laid down in section IV of this Chapter, the penalties imposed on the jars being shown in groups and not in detail in the proper column. The chalan registers of inferior opium will be treated as regards standard computation in precisely the same manner as good opium chalans, except with regard to fines which are leviable.

180. Where the contents of a jar of inferior opium are found by the Opium Examiner to be adulterated with starch, or to be so badly adulterated with other foreign matter as to merit confiscation, the procedure adopted will be similar to that prescribed for good opium in Rule 164, the opium found unfit for use being held in deposit pending the orders of the Agent. In such cases if the quantity is the produce of one cultivator the penalty of confiscation will be adjudged, but if the adulteration has escaped the notice of the District Officer, and the produce of more than one cultivator has entered into the jar, the contents will not be subjected to confiscation, but with the sanction of the Government the value already paid to cultivators will be written off to profit and loss, no further payment being admissible in the same manner as laid down in section VI of this Chapter for good opium.

181. *Suspected opium.*—When opium delivered by a cultivator to a District Officer is suspected of being adulterated with any foreign substance or rendered unfit by any process to be placed in a jar with other parcels, it is separately sealed up and forwarded to the Factory as "suspected" opium.

182. Chalans of suspected opium after weighment are sent by the Import Officer to the laboratory for necessary examination by the Opium Examiner; and cultivators whose opium has been sent in as "suspected" are at liberty to attend at the examination of their opium, provided they give notice to the Factory Superintendent of their presence at the Factory. District Officers are instructed, under Vol. VII of the Manual, to give notice to any cultivators who desire to attend at the Factory of the date of despatch of their opium from the district.

183. Suspected opium weighed off one day will be examined and disposed of on the next working day. On the morning of the examination the pots of each chalan will be arranged in the laboratory in the order in which they appear in the chalan register and in the

presence of the Assistant Opium Examiner the seals will be broken and the pots or bags of one chalan at a time will be opened.

184. One of the permanent parkhias under the personal supervision of the Assistant Opium Examiner will then turn over the crust of the opium in each pot and take from the centre a fair sample of about 50 grains which he will place in a saucepan bearing a ticket with the number of the pot on it. Each saucepan will then receive about an ounce of distilled or condensed water, and the contents will be boiled for about three minutes, the opium in the saucepan being broken down and continuously stirred with a glass rod.

185. The decoction will then be poured from each saucepan into a funnel holding a Nipal paper filter and standing in a glass to which is affixed a ticket bearing the same number as that marked on the saucepan. The transfer of the decoction from each saucepan to its filter must be made slowly and carefully so that any heavy insoluble matter may remain in the saucepan. The Assistant Opium Examiner will supervise the filtration and will have the glasses with the funnels and filters arranged after cooling in their consecutive order on the Opium Examiner's table. Saucepans which contain any heavy insoluble matter will also be retained by him.

186. At the appointed hour when all arrangements are ready, the Opium Examiner, assisted by one of the permanent parkhias and with the Assistant Opium Examiner seated beside him, will proceed to examine each pot singly. The Opium Examiner will have before him the suspected chalan register, in order to refer to column 6 for ascertaining the despatching officer's reason for suspecting the purity of the opium, and also a laboratory parakh paper (Factory Form No. 37) in which the numbers of the pots have been previously filled in according to the chalan register by one of the laboratory clerks. The Assistant Opium Examiner will have before him the necessary chemicals and apparatus for applying any test that may be necessary.

187. The examination of the contents of a suspected chalan will proceed in serial order from the first pot shown in the chalan register. This will be placed before the parkhia who will take out with his hand a sample of the opium and the Opium Examiner with the help of the parkhia will subject the opium to a careful physical examination by sight, touch and smell. The second parkhia will assist the Assistant Examiner in subjecting the decoction representing each pot to the starch test. If any special adulterant is suspected or noticed, the test for it will be applied, or the sample will be subjected to a microscopic examination if necessary.

188. If, in the opinion of the Opium Examiner, no grounds exist for suspecting a parcel of opium and the reason assigned by the despatching officer appears from examination to have no foundation, the opium will be passed for lowa purposes without a penalty, its class by hand parakh will be called out by the parkhia, the degree of consistence will be entered by the Opium Examiner in column 2 of the parakh paper, a chalk ring will be made round the pot, and it will be put on one side.

189. In the matter of penalties and confiscations considerable discretion is allowed to the Opium Examiner which should be exercised

with judgment, as on the one hand he has to act fairly towards the cultivator, while on the other he is bound to protect the provision of the Factory from the admixture of opium which is adulterated or deteriorated.

190. Under the first head, fairness to cultivators, it is his duty to make sure whether a parcel has been intentionally or accidentally adulterated. In accidental cases the matter is always brought to the notice of the District Officer in the first instance, and if he is satisfied as to the truth of the cultivator's statement, he will have made a note of it against the pot in the remarks column of the chalan register. In such cases a deduction will be made to the extent (roughly in weight) of the foreign matter present, the consistance will be assigned, and the opium will be disposed of for any use the Opium Examiner may think fit. Failing such remarks of the District Officer, the Opium Examiner must accept a case of adulteration as intentional. Penalties adjudged, or deductions made, on opium are expressed in kachas, or 1-64ths of a seer.

191. Intentional cases of adulteration or deterioration may be divided into two heads: (i) where the opium has been rendered unfit for Factory use; (ii) where the adulteration or deterioration is slight, and the drug, which has not been materially affected by it, can be utilised for lewa manufacture.

192. Under the first head will come all adulterations which alter the nature or character of the drug, such as starch, sugar, carbonate of soda, soapstone, vegetable pulps and extracts. Where such adulterations exist, the opium should be confiscated; it should also be confiscated where the opium has deteriorated by being largely deprived of its soluble matters, by washing with water.

193. Under the second head, the discretion of the Opium Examiner will come largely into play. Such substances as sand, dust, the impure washings of opium plates, poppy petals, poppy seeds and articles of a like nature, are frequently mixed with opium. Where they are in small quantities, they are innocuous in the preparation of lewa and the opium may be passed for this purpose with a penalty graduated according to the measure of the adulterant, and designed also to act as a deterrent. Opium deteriorated in a slight measure by washing would also come under this head. Penalties on opium of this character would vary, according to the circumstances of each case and the discretion of the Opium Examiner, from two kachas the minimum, to 32 kachas the maximum, in one seer of 64 kachas. If, in the opinion of the Opium Examiner, the parcel is deserving of a higher penalty than half its actual weight, it should be confiscated.

194. As the examination of each pot proceeds, the details of penalty, confiscation, reasons of the Opium Examiner for his action, the consistance according to hand parakh of the parcel, and the use to which it is consigned, will be entered by the Opium Examiner against the number of the pot in the parakh paper, in their proper columns, and the clerk standing by will at the same time make a distinguishing mark with chalk on the pot denoting that it is set aside for lewa or other use, or is confiscated. The pot or will then be placed, until the close of the examination, in the group representing the use to which it has been consigned.

195. At the close of the examination the Opium Examiner will sign and date the parakh paper. The Assistant Opium Examiner will then count the number of pots in each group, representing the number set aside for lewa, abkari, for the extraction of alkaloids, and the number confiscated, and will compare the number of each with the number shown in the parakh paper, and if he finds everything correct, he will at once cause all the confiscated pots to be closed up and placed in the deposit room (of which he keeps the key) in the portion allotted for the sub-division to which they belong, and will enter their numbers in the proper column of his memorandum of examination of opium and dhoi (Factory Form No. 33).

196. The totals of columns 6, 7, 8 and 9 of the same register will then be made up, and the pots with the register will be sent to the malkhana under safe custody. The Assistant Factory Superintendent will count the number and sign under the totals in the proper columns of the register as having received the pots, which will then be emptied out into the vats for which they are designed. The Assistant Opium Examiner will, on receiving back the register, initial it in the same manner in the proper column.

197. Having disposed of the pots, the Assistant Opium Examiner will then enter the result of the examination, as shown in the parakh paper, in columns 12 to 17 of the English chalan register, will note in column 24 the use to which each pot has been put, and will sign the register, which he will forward, together with the laboratory parakh paper, as soon as possible to the Factory Accountant, taking a receipt for them. The action to be taken by the Factory Accountant in the case of suspected chalans is first to compare the entries made by the Assistant Opium Examiner with those in the parakh papers, and then to strike the totals up to column 16, to add up the net weight of opium consigned to each use by the Opium Examiner, to fill up columns 10 to 18 of the memorandum (Factory Form No. 38) with these details, and to submit the memorandum and the parakh papers without delay, with the signature of the Factory Accountant, to the Assistant Opium Examiner as his authority for writing up his stock book of confiscated opium, &c. (Factory Form No. 39), which will be submitted once a week for the inspection and initials of the Factory Superintendent.

198. *Burnt Opium.*—Under this head is included opium which has suffered from the action of smoke, as well as opium which has been injured by exposure to fire.

199. The manner of treatment of burnt opium pots after weighing will be precisely the same as for suspected opium. If in disposing of burnt opium chalans the Opium Examiner finds in any case a certificate on the chalan register duly signed by the District Officer showing that he has satisfied himself that the injury was accidental, then such parcels as are free from adulteration, only slightly smoked, and in the estimation of the Examiner fit for lewa purposes, will be passed by him without a deduction or penalty, at the consistence of the drug estimated by hand parakh. If the opium is so injured as to be unfit for Factory uses, though free from adulteration, it will be set aside for the extraction of alkaloids, but passed, at the same time, for payment at 70° consistence on the net weight of the contents of

the pot. If the chalan register shows no certificate of the district officer that the injury to the opium of a pot was accidental, or if the opium contains adulteration which is obviously intentional, then it will be disposed of by the Opium Examiner on its merits in the same manner as a pot of suspected opium.

200. At the conclusion of the examination of a chalan of burnt opium, the Assistant Opium Examiner will close up such pots as have been confiscated, and will place them in the deposit room in the manner prescribed for suspected opium. Those pots that have been passed for payment, but are set aside for the extraction of alkaloids, though included in the number shewn in column 8 of the memorandum of opium and dhoi examined, will be removed to the morphia room, and those set aside for lewa will be sent to the malkhanna in the manner prescribed in Rule 196 for suspected opium.

201. The Factory Accountant, on receiving these chalans, will compare the entries with those in the parakh papers, and will strike the totals as in the case of suspected chalans, and in the memorandum (Factory Form No. 38) submitted to the Assistant Opium Examiner will note separately the net quantity assigned, (a) to the malkhanna, (b) for the extraction of alkaloids, (c) to the deposit room as confiscated, to enable the Assistant Opium Examiner to write up his stock book of confiscated opium, &c.

202. *Asamiwar opium*.—Under provisions contained in Vol VII of the Opium Manual, a cultivator who dissents from the classification of the district officer is at liberty to ask that his opium should be sent in separately for examination at the Factory, and in all such cases, as well as in special cases where a district officer may have doubts as to purity and may desire an authoritative opinion, the opium is classed “asamiwar,” and put into a separate pot by itself. It is the duty of the district officer to inform the cultivator of the date on which the parcel is despatched from the district, and to furnish him with a written order of attendance at the Factory, so as to enable him to attend there at the examination of his opium if he pleases.

203. It will be the duty of the Opium Examiner to consult, as far as possible, the convenience of the cultivators who wish to be present at the examination of their opium, and not to keep them waiting longer than is necessary; but should no cultivators appear within ten days of the receipt of an asamiwar chalan, the Opium Examiner will dispose of it on its merits in the ordinary way.

204. As in the case of suspected and burnt opium, the pots of a chalan of asamiwar opium will, after weighment, be sent by the Import Officer to the laboratory to await examination by the Opium Examiner. If the cultivator appears within the appointed time, his opium will be examined, tested and assayed (and if he wish it, reweighed) in his presence by the Opium Examiner. All pots of opium of this class will be dealt with in the laboratory parakh papers as laid down for suspected and burnt opium, a parakh paper being filled in by the Opium Examiner for each chalan. After parakh and assay the appropriate entries will be made in the chalan register from the parakh paper by the Assistant Opium Examiner, who will deal with the chalan register in the same way as for suspected opium; and the cultivator, if he desires it, will be furnished with a certificate

signed by the Opium Examiner in the form of an extract from the chalan register, when he will be at liberty to return to his village.

205. *Pasewa*.—Jars of pasewa after weighment will be ranged on the parakh ground, and will there be examined by the Opium Examiner in the way prescribed for good opium; those jars passed by the Opium Examiner as good will have the letter P marked on them with chalk, and when the assay slip is received, the consistence will be marked on them, and they will be conveyed to the lewakhana, where they will be emptied into the pasewa vat. The procedure regarding the acquittance of the Import Officer with respect to jars of pasewa will be the same as that laid down for good opium jars and bags in section VII of this Chapter, the acquittance being obtained from the lewakhana Assistant instead of the Assistant Factory Superintendent.

206. The quantity of pasewa received on any day will be calculated in the chalan registers by the Factory Accountant's Department, and the result, reduced to 70° consistence, will be communicated by the Factory Accountant (in Factory Form No. 40) to the lewakhana Assistant, and this will be the authority for that officer to enter the quantity in column 6 of his stock book of material for lewa. The quantity calculated for entry in the stock book will be the net quantity, reduced to 70°, after deducting the authorised allowance of five chitaks for each jar and half chitak for each pot for adhesion. Pasewa found by the Opium Examiner to be so adult rated as to be unfit for Factory use will be confiscated and held in deposit like confiscated opium; for such confiscated pasewa no value is payable to cultivators.

207. *Government scrapings*.—These will be dealt with in the manner prescribed for good opium. Should the opium be found fit for use, it will be passed for lewa purposes; if found unfit, it will be sent to the deposit room in the laboratory for use in the manufacture of alkaloids. All such opium declared to be fit for use will pass through the malkhana.

208. *Dhoi*.—Dhoi from the districts will have been specially prepared under separate instructions, so as to reduce bulk. It should be sufficiently evaporated in the districts so as not to assay below 70°, nor be much above 75° consistence. The method of preparation renders it unsuitable for use in lewa manufacture. District dhoi will therefore be examined by the Opium Examiner with a view to ascertaining that it has been properly prepared, and will be passed for manufacture of alkaloids without test, its consistence only being ascertained for the information of the District Officer to whom a parakh slip will be issued. The Import Officer will send these jars after parakh to the laboratory, and will obtain the Assistant Opium Examiner's acknowledgment for them in the receipt book kept for the purpose. The net amount of dhoi received will be credited in the stock book of confiscated opium, &c., from the entries in column 16 of the memorandum of examination of opium and dhoi which will previously have been filled up by the Factory Accountant, as in the case of suspected and burnt opium.

~~209. *Kaffa*.—The jars containing kaffa raga, after being weighed in the usual manner, will be forwarded to the laboratory. Here, about a quarter of an ounce of rag from each jar will be boiled in ten drams of distilled or condensed water, and the filtrate tested in the usual~~

manner. If found free from starch, the rags from each jar will be steeped in a tub or tagar in just sufficient cold, distilled or condensed water to cover them. When properly softened, the rags will be opened out and washed by hand; they will then be wrung out and rinsed in a small quantity of water so as effectually to remove all soluble matter. The two solutions will be mixed together and thrown upon a blanket filter. The filtrate will be measured, and a fractional quantity will be evaporated by steam. The extract will be examined physically and, if found fit for Factory use, it will be weighed and its consistence determined by assay.

210. The amount of extract contained in the whole solution will then be calculated, and the necessary entries will be made by the Assistant Opium Examiner in columns 10 to 14 of the chalan register. The calculated quantity of extract will be passed for payment in the Factory Accountant's Department at the same rate as for pure pasewa, viz., at Rs. 4-4 per seer of 70° consistence, a memorandum of the quantity being sent in the same manner as for pasewa to the Assistant in charge of the lewakhana. The solution, together with the extract, will be forwarded from the laboratory to the lewakhana, and will there be evaporated, stored and accounted for as pasewa.

211. All parcels of opium consigned by the Opium Examiner to the deposit room will be kept there for three months, so that they can be re-examined, or any references in connection with them answered, in the event of appeals being lodged by cultivators to the Opium Agent, or references being made by district officers. At the end of three months from the date of last examination of opium chalans of the season, the Factory Superintendent will submit to the Agent a report of the quantity of opium held in deposit from each of the different descriptions of opium sent in by district officers; and will formally ask for sanction to its disposal for the purpose of extracting alkaloids. On receipt of the Agent's sanction the necessary adjustment will be made in the stock book of confiscated opium, &c.

SECTION VI.*

Standard computation of the value of opium.

212. On receipt of the chalan registers, the vernacular copy with tare register from the Import Officer, and the English copy from the Assistant Opium Examiner, the Factory Accountant will be in possession of all the papers necessary for reducing the gross opium of a chalan to standard consistence. These chalan registers will, on receipt, be entered in a register (Factory Form No. 41) called the "Register of chalans received and computed," and will be stamped with a stamp showing the serial number and dates of their receipt in the Factory Accountant's office, of parakh and of the passing of the chalans after computation. These registers will then be distributed among the clerks

* The rules in this section, though based on the form in use for good opium, apply *mutatis mutandis*, to all descriptions of opium.

and muharrirs in consecutive order of their receipt, for the necessary entries and computations to be made. Chalan registers of Benares opium, received from the Patna Factory after weighment and parakh there, will be treated in precisely the same manner, their order in the consecutive series being reckoned by the dates of their receipt in the Factory Superintendent's office at Ghazipur.

213. The work will proceed as follows:—

- (i) The entries in columns 1, 2 and 3 of the English chalan register will be compared with the corresponding figures in the tare register; the jars or bags shown as damaged in the tare register should also be marked as damaged in the chalan register, if not already so done by the district officer.
- (ii) The English and vernacular copies of the register will then be compared with each other up to column 5.
- (iii) The clerk and the muharrir will then check, independently, the additions up to column 5 of the English and vernacular copies, respectively.
- (iv) Column 6, showing the result of the Factory weighment of a jar or bag will then be compared with the result of its weighment at the sub-divisional test-scale, as shown in the tare register, note being taken of the explanations given by the district officer in the tare register for each case of difference exceeding four chitaks, between the original and the test-scale weight at the sub-divisions.

214. All discrepancies found, as well as unusual differences by Factory weighment, as compared with the weighment at the sub-divisional test-scale, will be noticed in a memorandum (Factory Form No. 42) called "objection statement of chalans." This statement will be provided with a form for reply on the reverse, and after submission by the Factory Accountant for the Factory Superintendent's signature, will be sent to the district officer concerned for his explanation. The district officer will record his explanation in the space provided in the form on the points noted, and will return the statement in original to the Factory Superintendent, who will have the discrepancies reconciled in his office.

215. After despatch of the objection statement, the results of the Factory weighments, shown in columns 7 and 8 of the chalan registers will be checked, and the net weight of opium in each jar or bag will be entered in column 9 of both the English and vernacular copies by the clerk and the muharrir respectively, each doing his portion of the work independently of the other.

216. For all jars or bags damaged before weighment, whether in transit or at the Factory, columns 6 to 8 have been left blank by the weighing officer. In such cases the clerk and the muharrir will calculate the average dryage of the class to which the jar or bag belongs, and will deduct it from the opium of that jar or bag, entering the net weight after deduction in column 9. When there is only one jar or bag in a class and it is damaged before weighment, the average dryage of the chalan is deducted; but if only one jar or

bag is sent in a chalan and it is damaged before weighment, it is then passed at the weight found at the sub-divisional test-scale. If, however, the net result of the Factory weighment of a chalan shows an increase, the damaged jar or bag will be allowed the average increase in the same manner as dryage. The damaged jars or bags of a chalan will then be compared with the damaged consignment register submitted by the Import Officer, and cases of unusual differences in weights will be brought to the notice of the Factory Superintendent.

217. Average dryage is obtained by dividing the total dryage of a class (or chalan) by the total opium of the class (or chalan) as entered in column 4 of the chalan register, omitting, of course, the jars or bags damaged. Fractions of a chitak up to $\frac{1}{49}$ inclusive are ignored; fractions exceeding $\frac{1}{49}$ are accepted as a full chitak. The average dryage of jars and bags will be obtained separately, as the dryage in bags differs from that in jars.

218. The net weight of opium for all jars and bags having been entered in column 9 of the English and vernacular registers in the manner described above, the assay consistence, penalties, and confiscations entered in columns 10, 11, 12 and 13 of the English copy will be compared, under the personal supervision of the Factory Accountant, with the original parakh paper received from the laboratory, the parakh paper being returned, on completion of the day's work, to the laboratory duly attested by the Factory Accountant. The English clerk will then dictate to the muharrir the figures from the English copy, which will be entered in the corresponding columns of the vernacular register. The figures from columns 6 to 13 of the English register will then be compared with those of the vernacular copy. The clerk and the muharrir will then, independently of each other, add all the totals of these columns (except the columns of consistence and fines), and the totals of the two registers will be compared with each other.

219. The entries of columns 1 to 18 of a chalan register having been completed, the Factory Accountant's department will now—

- (i) enter in the "Register of chalans received and computed" and in the statement printed on the reverse of the programme of parakh and weighment (Factory Form No. 30) the total weight of opium by Factory weighment as shown in column 9;
- (ii) enter the same total weight of opium in the malkhana stock book.

220. The above entries having been made, the clerk and the muharrir will proceed respectively to prepare the dam deta of the English and vernacular chalan registers, columns 14 to 20, independently of each other.

221. The method of procedure for entries in columns 14 to 17 will be as follows:—In the case of opium passed by the district officers as good and chalaned under any of the classes VII and upwards, the fines imposed by the Opium Examiner on the parakh ground, and entered in columns 11 and 12, will not be deducted from the total of column 9, but the net opium shown in column 9 will be transferred to column 17, except in cases of confiscation which are shown in column 13. In such

cases, the quantity confiscated will be deducted from the net amount shown in column 9, and the balance will be given in column 17.

222. The above exemption in the levy of fines is allowed only for opium passed by the district officers as good. Fines on all other kinds of opium, viz., pani-amez, pasowa-amez, suspected, burnt and asamiwar opium and pasewa are levied, and the net amount, after deduction of fine, is entered in column 17, or its corresponding one in the burnt, suspected, and other chalan.

The value of opium chalaned as good by district officers, and confiscated by the Opium Examiner, is not realised from the cultivators, but the amount already paid to them by district officers is, with the sanction of Government, written off to profit and loss in the same manner as irrecoverable balances. This concession is also extended to confiscations of inferior opium when the produce of more than one cultivator has been mixed together in the same jar.

223. The *damdeta* is then entered in column 18, and the value of the jar or bag, and the rate per seer in columns 19 and 20 respectively. These entries will be made, with the help of tables, by the clerk and the muharrir in their respective copies of the register. As the tables show the rate per seer for jars or bags containing one maund exactly, in all cases where the opium shown in column 4 is not exactly a maund, and also when fines are deducted for inferior opium, the rate per seer will be separately calculated by the clerk and the muharrir.

224. When the net opium shown in column 17 of a chalan register contains fractions of a chitak, in calculating *damdeta* for column 18, column 17 will be taken as it stands, without ignoring parts of a chitak.

225. The *damdeta* of each jar or bag having been obtained in the manner above described, the detailed entries for each jar or bag, from column 14 to column 20 in the English and vernacular registers, will be compared by the clerk and the muharrir. The totals of each class from column 14 to column 20 will then be added up independently in the two registers and compared. If all are found correct, the total of each class will be brought over to the abstract on the last page for obtaining the grand totals of the chalan, and these will also be added up independently and compared by the clerk and the muharrir.

226. Finally, the clerk will enter in English figures in column 21 of the vernacular register, the value of the opium of each jar or bag taken from column 19 of the English register, and will compare his entries with the corresponding figures in column 19 of the vernacular register. The clerk and the muharrir will then sign their names on the backs of their respective chalan registers in token of their correctness.

227. The results of the chalan will then be registered in the "Abstract of opium chalans" (Factory Form No. 43), and also in the "Register of chalans received and computed" (Factory Form No. 41). After registration the chalan registers will be checked in accordance with Rule 229 by the Factory Accountant, and submitted to the Factory Superintendent for signature. They will then be forwarded to the Opium Agent for countersignature.

228. The Factory Accountant will submit daily, during the course of standard computation, for the information of the Factory Superin-

tendent, a progress report (Factory Form No. 44) of the chalan registers received, and the chalan registers computed and passed by him.

229. The Factory Accountant's control over the computation and preparation of chalan registers must be thorough, and he will be guided in his check by the following outline, which will be strictly adhered to and will be supplemented by the dictates of his own discretion and judgment, so that perfect accuracy in the work of his subordinate clerks and muharrirs may be ensured:—

- (i) he will review cursorily, on receipt from the laboratory, all English chalan registers and note cases of unusual differences between the district and Factory weighment and parakh, requiring explanation from District Officers; and also any special points or irregularities requiring the orders of the Factory Superintendent. These notes will be embodied in the objection statement (Factory Form No. 42);
- (ii) on the preparation of an objection statement the Factory Accountant will examine it with the chalan register, item by item, before signing it and passing it on to the Factory Superintendent for his counter-signature;
- (iii) he will exercise general check over the clerks and muharrirs, in such a manner as to prevent them from copying figures and totals from each other;
- (iv) at the completion of the work of standard computation of a chalan register, and before signing the register himself, he will check the average dryage given to *all* jars or bags which were not weighed at the Factory, owing to damage or other reasons;
- (v) he will check the *damdeta* and value of at least 5 per cent. of the jars and bags in each chalan;
- (vi) he will examine the assay consistence given in column 10 and see that no alterations exist without the due attestation of the Assistant Opium Examiner;
- (vii) he will check the value of the total *damdeta* of each chalan, and compare the total *damdeta* and the total value of each English chalan register with the corresponding figures in the vernacular copy;
- (viii) he will initial all cases of alterations or corrections in the figures of both the English and vernacular copies, after satisfying himself as to their correctness;
- (ix) he will examine the printed certificates on the back of each chalan to see that it has been duly signed by the clerk or muharrir concerned;
- (x) he will examine all entries in the "Abstract of opium chalans" and also in the "Register of chalans received and computed," and will initial each item in token of correctness.

230. After countersignature by the Opium Agent the vernacular copies of the chalan registers will be forwarded from the Agent's office by, registered post, to the district officers concerned, to enable them to prepare their final adjustment accounts of cultivators. The English copies will be retained in the Agent's office, to be audited under the superintendence of the Head Accountant.

SECTION VII.

Storage of opium in the malkhana

231. On delivery to the Assistant Factory Superintendent of the assay slip (*vide* Rule 168), charge of the opium passes to that officer, and he becomes responsible for its storage in the malkhana.

232. The Assistant Factory Superintendent will be assisted in his malkhana duties by one or more extra Assistants called malkhana and export Assistants. These Assistants, in addition to the duty of exporting opium will, under the orders of the Assistant Factory Superintendent, exercise general supervision over the work of emptying and scraping jars and bags.

233. The jars and bags will be carried into the malkhana under the supervision of the Import Officer, after the jars have been removed from their baskets, by the same coolies who arranged the chalang on the parakh ground, and they will be placed beside the vat intended for the opium of the assay consistance to which each jar or bag belongs. On the completion of this work, the Import Officer will obtain, as his acquittance, the Assistant Factory Superintendent's signature on the back of his triplicate copy of the assay slip of each chalan delivered in the malkhana, and will file the assay slips as his acquittance vouchers.

234. After all the jars and bags have been removed to the malkhana the Import Officer will cause all empty baskets to be taken from the parakh ground to the place set apart by the Factory Superintendent for their storage. There the baskets will be sorted under the orders of the Assistant into whose charge they are made over; those which are serviceable will be stocked for Factory use, or for re-issue to district officers, and those which are unserviceable will be sold by auction or used as fuel for the laboratory boiler.

235. A special beldar, well acquainted with English figures, will be told off for duty at the entrance of the malkhana. Standing on a bench he will call out the consistance of each jar or bag as it passes in, and will direct the coolies to the part of the malkhana where the store vat of the consistance is situated. The coolie, as he approaches the place, will call out the consistance he has heard from the beldar, and if it corresponds with the consistance on the vat, he will be assisted in depositing the jar or bag on the ground by another coolie told off for that special consistance. A second beldar will go round and tick off with chalk all jars and bags newly deposited in the malkhana, comparing the consistance marked on them with the consistance on the adjacent vat to see that they have been deposited in the right place. It will be the duty of the two beldars to see, throughout the day, that the consistance of all jars and bags corresponds with the consistance marked on the vat near which they are placed and into which they are being emptied.

236. As a rule, every vat in which provision opium is stored will receive opium of two consecutive degrees of consistance, the figures representing which will be conspicuously painted on the wall of the

vat. Each vat will also be distinguished by a letter of the alphabet (excepting the letters A and L), or if the length of the vat is great, by two letters at the two ends, to furnish distinguishing marks when samples are drawn from the vats, or particular portions of the vats, for assay, and the holding capacity of each vat will be painted on it. One vat in the malkhana (or more if necessary) will be reserved for opium intended for abkari manufacture, and a separate vat (or more if necessary) will be set aside for opium intended for lewa manufacture. These vats will be marked only with the letter A or L respectively, and will have no consistence figures on them.

237. The malkhana sirdar will divide his coolies into gangs, and will tell off one gang or more to each vat into which jars or bags of opium are to be emptied, and will keep a record of the number of jars or bags emptied by each gang. In emptying a jar as much of the opium as possible will be removed by hand and thrown into the vat, after which the interior of the jar will be lightly and carefully scraped with an iron scraper, and the scrapings (provided the jar is well baked, and is not abraded by the scraper) will also be placed in the same vat. The empty jar will then be carried away to the place set apart for the second scraping.

238. In the case of bags, these will be placed in rows on wooden gratings and will be wetted with a brush so as just to soak the cloth adhering to the opium, a minimum of water required for the purpose being used. Each bag will then be lifted on to the wall of the vat and the mouth drawn over the side. Two coolies, holding the sides, will then, with a jerk, throw the opium out into the vat. In opium of high consistence and free from pasewa, it should be completely detached from the bag by this process, but where this has not been satisfactorily performed the adhering opium will be taken off with a scraper and thrown into the vat, the bag being set aside for subsequent and more thorough scraping.

239. At the place appointed for the second scraping the malkhana sirdar will arrange his coolies in rows, so that each man's work can be easily checked, both as to quantity and quality. The empty jars brought from the malkhana vats will be broken up, and the fragments carefully and well scraped until no more opium can be removed without abrading the fragment. Each man's lot of fragments will lie in a heap beside him until the hour appointed for inspection of the work by one of the malkhana Assistants. The scrapings will be collected, weighed by the malkhana Assistant, and deposited in the vat reserved for scrapings at the close of the day's work. The weight of the scrapings collected will be recorded by the malkhana Assistant in a book kept for the purpose (Factory Form No. 45). In the case of bags the scraping will be done on wooden boards, and care will be taken that the bags are not torn or damaged in the process.

240. On completion of the day's scraping of bags the malkhana Assistant will count over for washing to the dhoikhana sirdar the number of bags scraped, and will take his receipt for them in a book kept for the purpose.

241. On the completion of the season's operations, and before the 31st March in each year, the stock of unmanufactured opium, if any, remaining in the malkhana will be verified by weighment, by an officer to be appointed by the Agent. The difference between the book and verified balance will represent the dryage in the malkhana, due to evaporation of moisture. Specimens of the opium weighed each day will be assayed in the usual manner and the consistence of the day's weighments will be recorded in the verification statement. The result of verification will be submitted to Agent by the Factory Superintendent before the 31st March, and the Agent will direct the necessary adjustment of the malkhana stock book, which will be done before the new season's opium is brought on the books.

CHAPTER V.

DHOI AND LEWA.

SECTION I.

Preparation and issue of dhoi.

242. Dhoi is obtained from two sources, viz., from the districts and from the various operations at the Factory. Dhoi obtained from the districts is prepared with a view to reducing bulk for transit, and from the manner of its preparation it is rendered unfit for use in the manufacture of provision opium. It is accordingly set aside always for the extraction of alkaloids. The term "Dhoi," as hereafter used, in this Chapter denotes only such dhoi as is obtained from the various operations at the Factory and can be utilised in the manufacture of lewa.

243. Dhoi is of three kinds:—

- (i) that resulting from the washings of chalan jars and bags;
- (ii) that resulting from the washings of tagars, planks and vats, and of the smeared hands of workpeople during the progress of the Factory operations;
- (iii) that resulting from the washings of cake-makers' cups and trays.

No separate account is kept for the dhoi under each of the first two heads, but the dhoi under the third head is separately accounted for, in order that the quantity obtained, which represents a deficiency in expenditure of lewa on the manufacture of cakes, may be made good to the cakes in lewa at the time of satta.

244. The dhoi and lewa departments will be in charge of one Assistant, who will be styled the 'lewakhana Assistant, and he will be selected by the Factory Superintendent from the permanent staff of Factory Assistants.

245. When the malkhana Assistant has checked the work of his coolies on the scraping of jars and bags, and has weighed in at the close of work the scrapings obtained (as laid down in Rule 239), the lewakhana Assistant will take charge of the broken fragments of pottery and will have them carried by the dhoikhana staff of coolies, and thrown into the dhoi vats for immersion and washing. The bags which have been counted and taken over by the dhoikhana sirdar will be immersed in separate vats.

246. The dhoi vats will have been previously filled with well water and each filling will be made to serve for the washing of pottery and

bags until the water has attained the required consistence from opium held in solution, when it may be utilised for lewa purposes. The vats will be charged with the fragments of pottery after the close of the scraping operations, and the fragments will be allowed to soak till the next morning when the opium adhering to them will be sufficiently softened to be removed from the pottery by means of brushes made of the leaf stalks of the "tal," or palm tree. The pottery placed in the vats on each occasion will be cleaned and removed before the vats are again charged in the afternoon. All straw, gunny, munj string, and pieces of baskets must be carefully excluded from the dhoi vats, as their presence is apt to give rise to fermentation.

247. Bags will be washed in separate vats so as to avoid damage to them from the pottery. They will be soaked on receipt from the mal-khana, and the next morning they will be scraped, wrung out, and hung up on wires in the sun to dry.

248. When the work of washing is completed for the day and before the vats are again charged for the next day, the washed pottery will be thrown away under the supervision of the lewakhana Assistant and a dafadar in the place appointed by the Factory Superintendent. The lewakhana Assistant will also make over to the store-keeper all cleaned bags that are perfectly dry, taking that Assistant's receipt in a book kept for the purpose. At the close of the season the Factory Accountant will check the number of bags received from the districts, the number shown in the malkhana book as made over to the dhoi-khana, and the number made over to the store-keeper from the latter department, and satisfy himself that the figures tally, any discrepancy being brought to the notice of the Factory Superintendent for his orders.

249. Dhoi from the dhoi vats, technically "thin dhoi" will be considered fit for use when it has attained a consistence of 7° to 10° ascertained by assay, and is sound in every way, of a good colour, and free from sour smell. When the dhoi of any vat has reached this stage, the Assistant in charge will cease to have any more pottery or bags thrown into it, and will cause the dhoi to be strained through a metal sieve into a separate vat where it will remain for use.

250. During the manufacture of lewa a specimen from the vat of thin dhoi in use will be sent daily to the laboratory by the Assistant in charge for assay with the lewakhana assay register (Factory Form No. 46). This register will be returned with the results and signature of the Assistant Opium Examiner, and if the results are satisfactory, the Assistant in charge will issue as much thin dhoi as may be required for the day, entering in column 8 of his "stock book of material for lewa manufacture" (Factory Form No. 47), the gross quantity issued, the assay consistence, and the equivalent quantity at 52.50° , the consistence at which lewa is used. While thin dhoi is being taken out of a vat for use, the contents of the vat will be kept continually stirred until the entire quantity required is taken. The dhoi brought on the stock book of the lewakhana is theoretically the equivalent of the deductions made for adhesion to jars and bags in importing opium into the malkhana (*vide* Rule 160),

and for adhesion to tagars, &c., in exporting opium from the malkhana.

251. At the close of the day's caking during the manufacturing season, the Assistant in charge of the lewakhana will cause the washings of the cake-makers' cups and trays to be removed from the caking room to the dhoikhana, and to be strained without delay into a special vat. The contents of this vat will be expended day by day before recourse is had to the dhoi from the washings of pottery and bags, the assay consistence being daily taken as prescribed in Rule 250 above, an entry of the quantity used being made in column 9 of the "stock book of material for lewa manufacture." It is important that this dhoi should be strained without delay in order to separate from it any fragments of leaf which, if allowed to remain, would cause fermentation. For the same reason it is desirable that it should be brought into use as soon as possible.

252. All tagars and other appliances used in the processes of import and manufacture of provision which have opium adhering to them will be daily brought to the dhoi vats and washed in them, care being taken that no such article is brought to the dhoi vats before it is first well scraped in the departments in which it has been used. Work people who have been working in opium and have their hands smeared with it will likewise wash their hands in these dhoi vats before leaving the Factory. It will be the duty of the Assistant in charge to keep a strict watch that the vats are kept scrupulously clean, and that the washings are made up of opium and water only.

253. Should any thin dhoi remain on hand at the close of a season's manufacture, it will be inspissated either in an open vat or in shallow glazed earthenware vessels by exposure to the sun until it attains a consistence of about 70°. When this consistence has been reached, which should be ascertained by sending a specimen to the laboratory for assay, with the lewakhana register, the Assistant in charge will, with the authority of the Factory Superintendent, cause the dhoi, now known as "thick dhoi", to be weighed and stored in a vat reserved for the purpose in the lewakhana, and will bring the gross quantity, with its consistence and equivalent at 52.50°, on to his "stock book of material for lewa manufacture," column 7.

254. All thick dhoi of a season should be expended during the manufacture of the following season by being distributed in an equal proportion throughout the season's lewa. Should, however, the quantity of thick dhoi be unusually large (a contingency which will rarely occur), the maximum limit of expenditure of thick dhoi permissible in the manufacture of lewa which is four maunds at 70° to every 100 maunds of opium of a like consistence must in no case be exceeded. The thick dhoi of one season should not be used until all the thick dhoi of the preceding season has been expended.

255. Before the Factory Superintendent gives his authority under Rule 253 above for the storage of a batch of thick dhoi for use, he will satisfy himself by personal observation that it is fit for lewa purposes. Should he consider it to have decomposed, or in other ways to be rendered unfit for lewa purposes the batch will be set aside for the extraction of alkaloids.

SECTION II.

Preparation and issue of lewa.

256. Lewa is a paste formed by breaking down opium in water, and mixing with it a certain quantity of pasewa in order to render it smooth and glutinous. It is used for pasting together the poppy flower leaf which forms the shell of the opium cake, and is composed of the following ingredients:—

- (i) Good opium, fit for the interior of provision cakes.
- (ii) Opium not considered fit for the central mass of cakes, viz:—
 - (a) the upper crusts of jars, when too dry and lumpy for alligation purposes;
 - (b) dry opium which has escaped from broken jars and has been collected by hand from the straw and baskets, the residuum of the preceding season, separation of which has been effected in the dry cold weather;
 - (c) opium sent in as “suspected”, but found, though not altogether pure, to be free from starch, sugar, oil or other objectionable adulterant;
 - (d) opium passed as inferior by the Opium Examiner, including pani-amez, opium with a broken grain, &c.;
 - (e) opium containing a large percentage of pasewa;
 - (f) Government khurchan or “godown scrapings”;
 - (g) the final scrapings from the broken fragments of chalan jars (collected in the malkhana).
- (iii) Fresh dhoi, or Factory washings of jars, bags and vessels, &c.
- (iv) Old dhoi, the surplus dhoi of the preceding year, dried to a consistence of 70° or above.
- (v) Contraband opium when sufficiently free from adulterating substances.
- (vi) Pure pasewa ~~and kaffa-extract~~.

257. Classes (i) and (ii) will be passed into the lewakhana from the malkhana, class (ii) having been there stored, in the first instance, in the opium vat reserved for lewa purposes; classes (v) and (vi) will be passed into the lewakhana direct from the laboratory or parakh ground, as the case may be, after examination by the Opium Examiner.

258. The consistence prescribed for lewa at the Ghazipur Factory, when ready for use, is 52.50° i.e., anything between 52° and 53° consistence.

259. The Factory Superintendent will issue orders in the Factory order book for the manufacture of lewa about ten days or a fortnight before the date fixed for the commencement of caking, prescribing the proportion of thick dhoi and pasewa to be used in the season's manufacture after considering the character of the produce and the quantities of material available. On issue of these orders the Assistant

Factory Superintendent will at once take steps to export the necessary opium from the malkhana, and the lewakhana Assistant will have at least three vats ready, so that, besides the vat which is being used for the day, specimens can be sent from two other vats for assay for the following day's issue, and the one that gives results nearest to the standard consistence will be selected for the day's issue. If there is any balance of old lewa from the preceding year's manufacture, it will be distributed equally over all the lewa in the several vats prepared before the commencement of caking.

260. The proportions of the different ingredients of lewa will be, as nearly as possible, as follows:—

- (a) Of opium of classes (i) and (ii) described above, 100 parts at 70° consistence.
- (b) Thick dhoi, not more than 4 parts at 70°.
- (c) Pasewa, not more than 8 parts at 70°, due allowance being made for its presence in the opium of classes (i) and (ii) used in the preparation of the lewa. Should that opium contain, in the estimation of the Factory Superintendent, as much as 8 per cent. of pasewa in it, then no free pasewa will be added to the lewa.
- (d) Thin dhoi, in such quantity as may be required to reduce the whole to the Factory standard of consistence.

When issuing pasewa for the manufacture of lewa, care should be taken to show the issue not by its gross weight, but by its equivalent at 70° consistence, which should be calculated from the assayed consistence of the pasewa each time it is required for use.

261. Opium of classes (i) and (ii) will be exported from the malkhana under the supervision of the Assistant Factory Superintendent in the manner laid down in Chapter VI, Section I. As the opium enters the lewakhana, it will be emptied into one of the lewa vats, and when the full quantity for the day has been received, the Assistant in charge of the lewakhana will, in his presence, have the correct proportion of thick dhoi and pasewa (already laid down in Factory orders), weighed out and placed in the vat, with the opium. He will then cause about four-fifths of the requisite quantity of thin dhoi to be added, and will allow the contents of the vat to soak for three or four hours. Two men will then enter the vat, and by treading and hand-rubbing will mix up the entire contents so as to ensure complete amalgamation. When the contents are thoroughly mixed up, they will be strained through metal strainers into a receiving vat, all gritty matter and what will not pass through the holes, which are one-eighth of an inch in diameter, being removed from the strainers by a coolie told off to each. This will again be broken up with a portion of the thin dhoi kept in reserve, and passed through the strainers.

262. After all the lewa has been passed through the strainers, the contents of the receiving vat will be stirred periodically, until it is brought into use, in order to ensure complete mixing, and uniformity in consistence throughout the vat. The stirrer used will be a wooden board about 20 inches long and 12 inches in width, perforated with

holes of about two inches in diameter, attached to a long bamboo handle, by means of which it is drawn backwards and forwards through the lewa.

263. The Assistant in charge of the lewakhana will send, on the morning after a receiving vat has been filled, specimens from it, with the lewakhana assay register, to the laboratory to ascertain the consistence to which the vat has attained and whether any more thin dhoi should be added. In sending specimens from the lewakhana for assay, the contents will first be well stirred, samples will then be drawn from four or five places in each vat by means of a metal test tube of sufficient length to reach from the top to the bottom of the vat. The test tube must be slowly lowered into the lewa, so as to include a vertical section of the whole depth. The four or five samples drawn from the vat will be thoroughly mixed together, and a specimen (about half a seer) of the mixture will be sent for assay, with the assay register. The Assistant Opium Examiner will enter the results of assay in columns 4 and 5 of the register and will return it to the Assistant.

264. When lewa is required for the manufacture of provision cakes, samples of two or three vats which contain the oldest lewa will be sent to the laboratory on the afternoon of the day previous to the lewa being required. In addition to the entries that will be made in the lewakhana assay register, the Assistant Opium Examiner will place an asterisk in the remark column of the assay register opposite the vat which gives results between 52 and 53 and nearest to 52.50. The register will then be submitted to the Factory Superintendent who will note in the remark column the number of the vat from which lewa is to be issued for manufacture. The lewakhana Assistant will then take steps to hang over the vat selected, a large metal ticket brightly coloured to draw attention to the vat and will take precautions that lewa is issued only from the vat specially designated by the coloured ticket until the next day's orders are received. Should none of the specimens be within the standard limits, the lewakhana Assistant will at once report the matter to the Factory Superintendent who will take measures to rectify the error by directing the addition to the vats of thin dhoi, or of opium broken down in lewa, as the circumstances of the case may require. If, however, the instructions for the preparation of lewa are carefully observed, such errors should hardly ever occur.

265. The full quantity of lewa of the Factory standard consistence allowed for each provision cake is, five chitaks. Of this quantity, four and a half chitaks will be used at the time of caking, and the remaining half chitak at time of sattai. Besides its ordinary half chitak, each cake will, at sattai, also receive an additional fractional quantity of lewa calculated on the amount of lewa recovered during manufacture from the washings of the cakemakers' trays and vessels, minus any excess issues which the accounts at the end of manufacture may show to have been made.

266. Previous to the issue of lewa, the lewakhana Assistant will receive from the Assistant Factory Superintendent an indent (Factory Form No. 48) countersigned by the Factory Superintendent, for the quantity of lewa required, calculated at four and a half chitaks per

cake, on the total number of cakes, to be manufactured on that day, *plus* an excess quantity for adhesion not exceeding 4 per cent., to be shown separately in the column provided for the purpose.

267. The lewa for caking will be issued from the lewakhana in vessels of uniform weight, each holding 15 seers of lewa, and the Assistant in charge will apportion off, in multiples of 15 seers, the number of buckets of lewa that should be placed in each cistern in the caking room. He will then furnish the server at each cistern with the requisite number of tin tickets numbered to correspond with the number borne by his particular cistern, each ticket representing a bucketful (15 seers) of lewa. He will also provide one carrier from the lewakhana to each cistern with a distinguishing ticket numbered similarly to the cistern. Each carrier will then bring a ticket from his particular cistern to the lewakhana, get a bucketful of lewa, drop his ticket into a box as he passes out, and he will be tallied at the same time by the Assistant seated at the entrance before whom the lewa will be weighed. As the carrier empties his bucket into the cistern, he will take another ticket for a fresh bucketful, until all the lewa required for the day is served out.

268. At the close of the serving, the Assistant will compare his tallying with the number of the tickets in the box, and will satisfy himself that the full number of buckets corresponding to the tickets issued by him have passed out. He will then debit the total amount issued in his stock book of lewa (Factory Form No. 49). At the end of the day's caking, the lewakhana Assistant will see all the cisterns in the caking room carefully scraped out, and he will have the unexpended balance of the lewa, representing the excess issued for adhesion, weighed back in his presence into the lewakhana. He will then credit the amount thus received at 52.50° consistence, in column 5 of his stock book of material for lewa manufacture, and this will be transferred to the stock book of lewa with the day's manufactured lewa in the usual manner.

269. The issue of lewa for sattai and repairs will be conducted in the same way as for caking.

270. At the close of the day the Assistant in charge will also write up the several columns of his stock book of material for lewa manufacture, entering the quantities (gross weight and at 52.50°) of opium, pasewa, washings, &c., actually received into the lewakhana, the consistences of the gross quantities of opium from the malkhana and laboratory being furnished to him by the supplying officers in the memorandum of export and assay and contraband register respectively, which will be intialled by the lewakhana Assistant and returned. He will then strike off from stock the quantities of each description of material actually expended in the manufacture of lewa, striking a total of them in column 10 of the register. The figures at 52.50° so struck off as expended, which represents the quantity of lewa made, will then be transferred to the stock book of lewa, column 3, as the quantity of prepared lewa actually brought on stock.

CHAPTER VI.

MANUFACTURE AND CARE OF PROVISION OPIUM.

SECTION I.

Export and alligation.

271. The Assistant Factory Superintendent is the officer to whom the Factory Superintendent will entrust the very responsible duties connected with the manufacture and care of the provision opium of the Factory. The Assistant Factory Superintendent will give his unremitting attention to all details, and will carry out the orders of the Factory Superintendent in connection with these duties in a zealous and intelligent manner. The Factory Superintendent is in no way, however, relieved of the responsibility for the work in connection with the manufacture and care of cakes. He should therefore carefully control the work of the Assistant Factory Superintendent in all departments.

272. On the day before that fixed for the export of opium for alligation, the Assistant Factory Superintendent will take samples for assay from as many vats as he thinks necessary to enable him to obtain a mixture of the required consistence. Three samples will be drawn from each vat selected, the samples being taken from the part of the vat from which the opium is to be removed. The samples will be drawn by means of a test-rod of sufficient length to include a section of the opium from its surface to a depth of about two feet. The three samples of opium from each vat will be well mixed together by hand and three specimens will be taken from the mixture and placed on a patri bearing the distinguishing letter of the vat.

273. The Assistant Factory Superintendent will now fill in columns 1 and 2 of the "memorandum of export and assay" (Factory Form No 50). He will forward this memorandum, with the patri, to the Assistant Opium Examiner in the laboratory in a locked box of which that officer will hold a duplicate key. The Assistant Opium Examiner will weigh off and assay three samples of 100 grains from each patri, recording the results and the average of the three assays in the columns of the memorandum provided for the purpose. He will then sign the memorandum and return it to the Assistant Factory Superintendent.

274. The Assistant Factory Superintendent will then calculate and enter in the memorandum the quantity of opium to be taken from each vat in multiples of 50 maunds, so as to bring the average consistence of the whole to such a figure as, under the existing conditions of the atmosphere, will give, on the next day but one, the caking standard of the Factory. He will then submit the memorandum for

the orders of the Factory Superintendent who, if he approves of the alligation, will countersign the memorandum and return it. The Assistant Factory Superintendent will then give orders in Factory Form No. 51 for the printing of the requisite number of tickets (Factory Form No. 52) for each vat from which export is to be made. Each ticket will represent 10 seers of opium.

275. The tickets after they have been printed will be ranged consecutively on wire files in bundles of 200, each bundle representing 50 maunds of opium in the aggregate. These files of tickets and the Assistant Factory Superintendent's order for their printing will be made over by the head clerk of the office, on the same evening, to the malkhana sirdar, who will himself check the vat letters of the tickets with the printing order, and have them ready for the export Assistant the next morning.

276. On the day fixed for alligation the Assistant Factory Superintendent will cause to be placed, at the exit from the malkhana into the alligation room, a table and one or more sets of scales and weights. Shortly before the time fixed for beginning work, the export Assistant will seat himself at the table, and will examine the tickets, compare the quantities represented by them with the corresponding letters and quantities shown in the "memorandum of export and assay," and he will also satisfy himself that the tickets are complete in number. He will then make over the tickets to the weighmen at the vats.

277. Before commencing work the export Assistant will also note the number of alligation vats that have to be filled, and he will so distribute his coolies and arrange the work that all the alligation vats at the completion of export may contain opium, as nearly as possible, in equal quantities and of uniform consistence. The following procedure is laid down for his guidance:—

- (i) He will tell off to each export scale in the malkhana, coolies either corresponding exactly in number to the number of the alligation vats, or a multiple of that number; and the coolies of each scale will be equally distributed between the alligation vats.
- (ii) Each alligation vat will be distinguished by a number, which will be prominently shown against the wall just above it; and a ticket bearing the number corresponding to the number borne by each alligation vat will be worn by the coolies belonging to that vat.
- (iii) One coolie mate will be told off to each alligation vat to see that the coolies bringing opium to that vat are wearing tickets corresponding in number to the distinguishing number of the vat.

278. At each exporting vat will be placed a set of scales and weights, with the file of tickets belonging to the particular vat. As each quantity of opium is weighed off, the topmost ticket of the file will be given by the weighman to the coolie, who will carry the tagar of opium for check weightment to the Assistant's scale. If found correct, the Assistant will note that it bears the next consecutive number to the ticket before it with the same vat letter, will date and initial

the ticket by means of a stamp, and will string it on to the wire file bearing the corresponding vat letter. The coolie will then pass with the opium into the alligation room.

279. The whole quantity required for alligation (also for lewa and abkari, which will be exported in a similar manner) having been thus passed out, the export Assistant will fill in the abstract of the day's work at the foot of the malkhana assay memorandum (Factory Form No. 50), showing also in it the number of tagars used in exporting the opium on each account, and will then submit the memorandum of export and assay, to the Assistant Factory Superintendent, who will check and initial the abstract, and will write up the entries in his malkhana register (Factory Form No. 53) for exports for lewa and abkari, and in his "caking results register" (Factory Form No. 54) for export for caking. The memorandum of export and assay will then be submitted by that officer for the inspection and signature of the Factory Superintendent, in whose office it will be used for compiling "Factory stock account" No. 4, for the audit of the Assistant Factory Superintendent's books, and for writing up the expenditure side of the malkhana stock book and will then be returned to the Assistant Factory Superintendent for record.

280. The opium when it reaches the alligation room will be thrown into the vats in the manner laid down above, the vats being filled simultaneously; and while the vats are being filled the opium will be raked across by two or more coolies in each vat, with wooden rakes. This process will continue until the vat has received its full complement when the mixing of the opium will be completed by treading, two or more coolies being employed in each vat for that purpose.

281. When the mixing of the opium has been completed as above, the contents of each alligation vat will, on the afternoon of the same day, be equally distributed between the different caking vats where the mixture will be again trodden by coolies for at least an hour and a half before the Factory closes. To ensure that the contents of each alligation vat is equally distributed over the caking vats, the following precaution will be taken:—

- (i) the number of coolies told off to carry from each alligation vat will correspond to the number of caking vats, or be a multiple of that number, and the coolies will be distributed equally between the vats;
- (ii) the caking vats will bear distinguishing colours on the walls, and these colours will be prominently shown on the numbered tickets carried by the coolies representing their alligation vats;
- (iii) the coolies, for instance, bearing the red tickets of Nos. 1, 2, 3 and 4 alligation vats will deposit their loads in the caking vat bearing the red colour; similarly, the coolies with yellow tickets of Nos. 1, 2, 3 and 4 vats will deposit their loads in the caking vat bearing that colour; and so on for the other colours.

while this work is in progress a malkhana Assistant will be in attendance for personal supervision.

282. The next morning the Assistant Factory Superintendent will continue the treading for a short time and will draw specimens for assay from at least ten places in each vat. He will cause the samples from each vat to be thoroughly mixed in a tagar, and will send two specimens from each tagar to the laboratory for assay. Should the Assistant Opium Examiner find the opium in all the vats to be at the caking standard of the day, he will issue an assay certificate (Factory Form No. 55) to the Assistant Factory Superintendent, who will stop further treading and will forward the certificate to the Factory Superintendent for orders to cake. The assay certificate will show the consistence of each separate sample to fractions of a tenth of a degree, the average for each vat, and the mean average of all the caking vats; the latter average will be recorded as the caking consistence for the day.

283. Should the Assistant Opium Examiner find the opium of any vat not to be within the standard limits, he will report the matter in writing to the Assistant Factory Superintendent who will at once send fresh samples from that vat. Should the assay be again incorrect, the matter will be brought to the notice of the Factory Superintendent, and that officer will take immediate measures to bring the opium to its proper consistence. If it is too high, opium of low consistence will be added. Should the consistence be too low, treading will be continued until the proper degree of spissitude is reached; or, if the Factory Superintendent finds it necessary, opium of high consistence will be added.

SECTION II.

Preliminary arrangements for caking.

284. Before caking begins, the Factory Superintendent will appoint as many Assistants, permanent or temporary, to be called caking-room Assistants, and as many sirdars as he may consider necessary for the service of the caking-room, with reference to the provisions of the rules of this Chapter. The appointment of the rest of the establishment will be made according to the scale laid down in Chapter XI (Temporary establishments). The entire arrangements of the caking-room and the distribution of its staff will be entrusted to the Assistant Factory Superintendent, who will be assisted by the head sirdar.

285. The Assistant Factory Superintendent will keep a distribution register of the sirdars in which he will enter every morning, or once a week, as he may think fit, the work on which each sirdar is to be employed, and the section to which he is to be attached. He will be careful that no sirdar is kept on the same work or in the same section for more than one week at a time.

286. The caking-room will be divided off into five (or more) convenient sections which will be distinguished by the letters A, B, C, D, and E, besides one section which will be reserved for the caking school. The five sections will accommodate, in their order of merit, the cake-makers, who will be ranged along each side of the room. Each half

section will be in charge of a supervising sirdar, and over every two sections there will be a caking-room Assistant.

287. Each section will be separated by a wooden railing from the sections on either side of it, communication between one section and another being by means of a wicket through which the cake-makers and their boys will not be allowed to pass. In each section there will be only one door of exit for the cakes, at which an examining sirdar will be stationed. In the yard outside the caking-room, where the cakes are laid out during manufacture, there will be stationed two sirdars called inspecting sirdars.

288. At least a week before caking begins, the Assistant Factory Superintendent will obtain from the Store Department on indent duly countersigned by the Factory Superintendent, the entire apparatus required for cake-making, such as scales, weights, moulds, tagars, &c. These will be counted over by the store-keeper to the head sirdar, and will remain during caking time in the charge of the Assistant Factory Superintendent. At the close of the season's caking the apparatus will again be counted back into store by the head sirdar, under orders of the Assistant Factory Superintendent, and an acquittance taken from the store-keeper.

289. Scales for weighing out the opium to the cake-makers, and cisterns to hold lewa, will be arranged in a line down the centre of the caking-room at convenient intervals, the number in each section depending on the number of cakes allotted to be made in the section. At the exit gate of each section will be placed a check scale. Beyond the check scale, there will be on one side of the door a couple of boxes containing fine trash, and on the opposite side of the door a small vat of water. The total number of scales, cisterns, &c., will be found laid down in detail in the Chapter on establishments.

290. All the seats in the caking-room will be serially numbered, section by section, from 1 to the number of the last seat, and the cake-makers will be told off to the seats in the order in which they appear in the seniority list of cake-makers kept by the Assistant Factory Superintendent, who will have filled up, before the season's work commences, vacancies in all sections from the next lower section according to the merit of the men; the vacancies in the last section being filled from those in the school who were declared efficient cake-makers in the previous season. The musters of the cake-makers will be taken daily soon after the commencement of caking by the head sirdar and an Assistant told off by the Assistant Factory Superintendent. The seats allotted will be retained by the cake-makers throughout the period of caking, vacancies being filled up by the Assistant Factory Superintendent, when necessary, from the seniority list of passed cake-makers who are without seats, or from the school. When vacancies are thus filled up, the Assistant in charge of the cake-makers' musters will note the changes in red ink in the daily section lists that are used for counting the cakes of the cake-makers.

291. Each cake-maker will be supplied with a wooden seat and a tray with a raised margin to prevent the escape on the floor of any lewa which may happen to be spilled. He will also receive a hemispherical brass cake-mould, a tinned iron-plate or tile to hold the allowance of opium for each cake, a copper lewa cup, the requisite number of small

paper tickets bearing his number and the date of manufacture, and ready gummed at the back, and a curved iron stand, which cannot hold water, for resting on it a wetted rag provided for moistening his hands when required. The seat, tray and cake-mould will have stamped on them the cake-maker's appropriate number. He will also have a signal board, with his number on it, to mark the position of his cakes laid out in the yard to dry.

292. The preparation for the day's caking will commence early in the morning with the examination and testing of all scales, weights, iron tiles, lewa cups and export tagars—a duty which will be performed by the head weighman, who will be held responsible throughout the manufacture that the weights of all the above articles are correct, and also for their care and custody. All iron tiles, and similarly all tagars, and all lewa cups should be of one uniform weight. If the head weighman is unable to check all the weights, cups, tagars, &c., before work begins in the morning, he should begin the work of checking in the previous afternoon after the close of the day's caking. This work will be supervised by one of the caking-room Assistants told off in rotation by the Assistant Factory Superintendent.

293. Each scale at the caking vats will be supplied with a tagar as a counterpoise, of the same tare as the rest of the tagars used for conveying opium into the caking-room; a weight equal to 14 seers 11 chitaks (the weight representing the opium of 10 cakes), which each tagar will take out; and a counterpoise weight of half a chitak as an allowance for the moisture and opium adhering to the tagars brought in to be filled with opium.

294. The beams and pans of the scales down the centre of the caking-room will be serially numbered, and the weighman in charge of each scale will be supplied with—

- (a) a weight equal to 1 seer $7\frac{1}{2}$ chitaks, i.e., the quantity of opium prescribed for the central mass of the cake;
- (b) a tagar of water;
- (c) a flat iron plate about 10 inches square;
- (d) a tared iron tile for holding the opium for weighment;
- (e) a counterpoise of the exact weight of the iron tile;
- (f) a metal or earthenware bowl to hold foreign substances found in the opium.

295. The lewa cisterns will be serially numbered, and the server in charge of each cistern will wear a ticket stamped with the cistern number, and will be provided with—

- (a) a small pair of scales fixed across the cistern;
- (b) one brass weight equal to the prescribed quantity of lewa for each cake, viz., $4\frac{1}{2}$ chitaks;
- (c) half-a-dozen copper lewa cups of the same weight as the other cups in use in his section;
- (d) a copper or tin ladle and tray.

296. The check scales at the section exit doors will be serially numbered with a separate series to that used for the scales for weighing opium in the caking-room. Each weighman at a check scale will be furnished with a 2-seer weight and a $1\frac{1}{2}$ -chitak weight.

SECTION III.

Control and supervision over caking.

297. The Factory Superintendent will be present in the caking room during the progress of work as often as his other duties permit, and will satisfy himself daily that the work of cake-making is being carried on efficiently and according to rule.

298. The Assistant Factory Superintendent, who is directly answerable to the Factory Superintendent for everything connected with the manufacture of cakes, will remain present in the caking room and in the buildings where any operations connected with caking are being conducted, during the whole time cake-making lasts. He will see that the Assistants and sirdars are at their posts and doing their duty. He will observe the manner in which the searching and weighing of the opium, the issue of lewa, and all other details of the work, are being conducted, paying particular attention to the manufacture of the shells and to the supervision of this work by the sectional sirdars. He will from time to time examine the lower halves of shells ready for the reception of opium, and will satisfy himself that they are of the proper thickness throughout, attention being specially directed to the lowest point of the shell. He will also daily open out not less than a dozen cakes, preferring (as a check upon their work) those which have been passed by the examining sirdars. The active supervision of the process of cake-making is one of the most important of the Assistant Factory Superintendent's duties.

299. The duties of a caking-room Assistant are—

- (a) to maintain proper discipline in his sections;
- (b) to see that the opium and lewa are carefully weighed out by the section weighmen and the lewa servers;
- (c) to see that the entire bundle of leaf, the entire mass of opium, and the entire cupful of lewa, are used in making the cake for which they were issued. The Assistant should be particularly careful to see that the lewa cups are completely emptied before being sent to be refilled, and that with the beginning of each new shell a fresh cupful is brought into use;
- (d) to check at least once every hour the number of each of his cake-makers' cakes laid out in the yard;
- (e) to see that the supervising and the examining sirdars employed under him pay strict and careful attention to their duties.

300. The special duty of the supervising sirdar is to keep a close watch over the manual work of the cake-makers under his control. He should see that leaf of different qualities is used in its proper turn; that the lewa is thoroughly and evenly spread, that the half of the shell in the mould is of the required thickness of about $\frac{1}{16}$ ths of an inch, as the tendency of cake-makers is to make the lower half thinner than the upper half; and he should occasionally take to pieces the lower half of the shell, before the opium has been put into it, and

satisfy himself that the leaf has been properly arranged and that sufficient lewa has been used. He should see that the opium is carefully placed in the shell in the manner directed, and that the upper part of the shell is tightly and uniformly finished, and that all air is expelled. He should also be careful to prevent the cake-makers from collecting water near their trays with which to dilute their lewa or moisten their leaf.

301. When faults in the cakes are observed by the supervising sirdars, they will at once be reported to the section Assistants. If the fault is of a serious nature, the section Assistant will enter the cake-maker's name and the offence committed in a fine book kept ready for the purpose on a table in the caking room, in which the Assistant Factory Superintendent will afterwards enter the fine or other punishment, according to the circumstances of the case after proper enquiry. This fine book will be placed once a week before the Factory Superintendent for his approval and initials.

302. The duty of the examining sirdar, stationed at the exit gate of the section, is to see that no faulty shell leaves the caking room. As each cake passing out of the room is handed to him by the cake-maker's boy, he will observe its shape, whether spherical or pear-like, and by turning the cake about in his hands, he will ascertain whether it is baggy or lumpy (viz., soft in some places and hard in others); he will observe whether the chandi leaf has been smoothly pasted on the outside of the shell without creasing, and whether the margin of the leaf has been securely pasted down. If the examining sirdar finds only slight faults in a cake, he will open out the cake, and will return it to the cake-maker to be remade, but if he finds serious faults, he will retain the cake, and report the matter to the section Assistant, who will, if necessary, bring it to the notice of the Assistant Factory Superintendent.

303. The following points regarding the quality of a cake are worthy of notice:—A pear-shaped cake is generally a bad cake. A shell spherical in shape, neither baggy nor lumpy, resisting pressure evenly at every part of its surface, may be considered *prima facie* a good shell; but even such should be occasionally opened to make sure that the lewa has been properly spread. Shells should not always be opened from the side last made, but should be as often opened from the side which was made in the mould, as the work on this side is as likely to be imperfect.

304. It is the duty of the two inspecting sirdars in the yard, each of whom will be told off to the cakes of definite sections, to keep watch over the cakes as they are laid out to dry by the cake-makers' boys, and to cursorily examine them for faults which often show themselves in the gradual process of drying. Cakes with slight faults will be returned by them to the cake-makers; should they notice any badly made, loose or baggy cakes, they will at once report the matter to the head sirdar, who will, if necessary, report it to the Assistant Factory Superintendent. A watchman will also be temporarily employed for each section in the yard under the inspecting sirdars, to keep watch over the jettas, and to prevent any person touching the cakes without proper authority, or moving them from one jetta to another.

305. The following are serious faults in cake-making:—

- (a) omission to use the whole quantity of opium, leaf and lewa issued for the cake;
- (b) unequal distribution of leaf between the different parts of the shell, resulting in undue strength in some places and undue weakness in others;
- (c) uneven application of lewa to the leaf, resulting in bald patches, technically known as making dry cakes;
- (d) too scanty use of lewa in the lower half, and too copious use of lewa in the upper half, of the shell, or *vice versa*;
- (e) the enclosure of air in the cake, either between the shell and the opium, or between the different layers of the shell;
- (f) the use of water by the cake-maker at any stage of his work, by squeezing his wet rag over the cake or into his hands, instead of simply moistening his hands with it.

SECTION IV.

Manufacture of cakes.

306. The caking vat and lewa assay certificates having been passed by the Factory Superintendent, and the importation of lewa into the caking room cisterns having been completed, the actual work of cake-making will begin. The hour at which it usually begins is 7 A.M.

307. The opium carriers of each section will be distinguished by a different colour, a tin badge of this colour being worn round the neck of each; and the tin tickets distributed to the carriers for entry into their sections will also be of the distinguishing colour of the section.

In each section there will also be hung up in a conspicuous place on the wall a board showing:—

- (a) the distinguishing letter of the section;
- (b) the number of cake-makers present;
- (c) the maximum number of cakes each cake-maker is allowed to make in the section;
- (d) the number of cakes each man is allowed to make every twenty minutes.

308. The first bell will ring at 15 minutes before the hour appointed for commencing caking, when the cake-makers, their boys, and all the caking room staff will take their places. This bell will also be the signal for opium being taken out of the caking vats. The opium, as it is taken out of the vats, will be put into tared tin tagars, in which it will be well searched by hand for foreign substances before it is allowed to be taken to the scales. Each carrier will then have his tagar accurately weighed at the caking vat scale, each load of opium being 14 seers 11 chitaks, the equivalent of ten cakes. The tagars will then pass out to the check scales, where they will be again weighed

and as each load is check-weighed and found correct the weighman will hand a plain tin ticket to the carrier.

309. Before work commences, or as soon as the Assistant Factory Superintendent has ascertained the number of cake-makers present in each section, he will apportion the number of cakes to be made that day over the several sections. The number of tagars of opium (each of which holds the equivalent of ten cakes) will thus be known, and a special man (the head weighman for preference) will be told off to issue the requisite number of coloured tin tickets, representing tagars, for the several sections every 20 minutes. At each bell he will issue the sanctioned number of these tickets for each section to the weighmen at the opium check scales for issue to their section carriers in addition to the plain tickets issued under the last rule.

310. The second bell will ring at five minutes before the appointed hour. This bell will be the signal for the carriers to pass out of the check scales room to their several scales with their loads, and as each passes out of the gate he will drop his plain tin ticket into a box kept by a mate coolie. As each carrier enters his particular section, he will drop his coloured ticket into a locked box in the presence of the watchman at the wicket. When all the tagars allotted to a section have been passed into it, the watchman at the wicket will count and make over the coloured tickets to the head weighman, who will see that they are correct as to number and colour and will re-issue them to the opium check scale weighman for the supply of opium required for the next interval of 20 minutes.

311. On the opium passing into the caking room the weighmen at the section scales will proceed to weigh it out accurately into parcels of 1 seer $7\frac{1}{2}$ chitaks, representing the contents of one cake. Each weighman will be assisted by his beldar, who will first take out a lump of about the required quantity, and will place it on the iron plate in front of him and search it; the opium will then be placed on the scale on the tared tile which has been slightly wetted to prevent the opium adhering. By adding or removing a small quantity the exact weight will be obtained by the weighman, and the opium will then be transferred from the iron tile to the tile brought by the opium server which has been previously dipped in the tagar of water and drained.

312. The lewa server will also carefully weigh out into the cups and distribute the allowance of lewa for each cake. One of the spare cups in his charge, slightly smeared with lewa (so as to represent as nearly as possible the state of the cup when returned by the cake-makers), will be used as a counterpoise. The other cups he will keep filled with the prescribed allowance ready for use when needed. As soon as a cake-maker has completed a cake, the server's boy will supply him with a filled cup and bring back his empty one, which will be refilled, and take its place ready for issue in front of the server.

313. At the same time the leaf distributors will give a bundle of leaf to each cake-maker, which the cake-maker and his boy will proceed to sort and have ready.

314. At the third bell, which will ring punctually by order of the Assistant Factory Superintendent at the hour appointed, the day's cake-making will begin throughout the room.

315. The quantities of the different materials used for each cake are as follows:—

	Srs.	Chs.
Opium at standard consistence 71°	...	1 7.5
Lewa at 52.50°	...	0 4.5
Leaf (unwetted)	...	0 5.0
Water (used in wetting leaf), taken at	...	0 0.5
Trash (into which the cake is dipped at the caking room door), taken at	...	0 0.25
Total	...	2 1.75

316. Should caking be conducted at a higher consistence than the Factory standard of 71° owing to exceptional dryness of the season, the weight of opium for the central mass of the cake will remain at 1 seer 7½ chitaks. If, on the other hand, the consistence of the drug in the vats is exceptionally low and the standard of 70° has to be adopted, then a proportionate allowance of opium will be added to every cake to bring the central mass up to the equivalent of 71° consistence, i.e., the equivalent of 10 cakes in a tagar will be 14 seers 14.35 chitaks, and the weight of opium for each cake will be 1 seer 7.83 chitaks, and these additional weights (which will always be in the Store Department) will be fixed to the weight pans of the several scales. Deviations from the standard of 71° consistence can only be adopted with the previous sanction of the Agent. Caking below 70° is never recommended, nor will it be ever found necessary.

317. The first material with which the cake-maker has to deal is his bundle of leaf. From this he will take out a sound, whole leaf of the first class. The cake-makers call this leaf chandi; but as a fact, the whole of the chandi leaf, properly so called, is reserved for sattai, for which the quantity delivered each year is barely sufficient. The leaf referred to here is the finest leaf in the cake-maker's bundle, and strictly speaking, is not a chandi leaf. Having moistened the interior of his brass mould with his wet rag, and in addition, smeared it over with as much lewa as he can take up with the tips of two fingers, in order to prevent the leaf adhering to the mould, he will tear the leaf across to its centre, and spread it evenly in the mould, pasting down the over-lapping pieces with lewa. He will then tear the edge of the leaf in three or four other places, so that it may take the shape of the mould without creasing, and will paste down the torn corners with lewa. This first leaf should just fill the entire mould. This is the first stage in cake-making.

318. He will next take some first class leaf which he will tear in two (or three pieces according to the size of the leaf), and paste the semi-circular halves over-lapping each other, vertically round the chandi leaf with lewa (some 10 or 12 pieces will be required to go round the mould), taking care that the lower corners of the leaf are so placed as to reach well over the centre of the bottom of the mould, a precaution

which will ensure the shell being of proper thickness and strength at this particular spot. The upper portions of these pieces will be left hanging over the outside of the mould to form the upper half of the shell. This layer of leaf is called by the cake-maker "sanjap" or lining. Having completed the circle of the mould in this manner, he will next paste with lewa crosswise inside the sanjap, other halves of two first class leaf, called "chits," so as to give lateral strength to the shell; or, instead of tearing the second leaf into two, it may be torn across to its centre only, and be then fitted over the first chit in the same manner as the first leaf of all was laid in the mould. This leaf, thus placed, is technically known as "dabao." Then, holding with his open left hand the inside of the mould, and turning it round and round on its base, with a twisting motion of his right wrist, he will firmly press the chits and other leaf together with his right fist. This operation is called "bhanga." This completes the second stage in cake-making.

319. He will then tear several of the second class leaf into two or three pieces each and paste them with lewa over-lapping each other, vertically in the mould, leaving the upper portions hanging outside as was done with the "sanjap" layer. This layer is technically known as "dawan" or skirt. Inside it he will place other chits of second class leaf well smeared with lewa, the second leaf of which may be used as a "dabao" as in the second stage and will repeat the process of "bhanga." This completes the third stage in cake-making.

320. He will then take some third class leaf, and tearing each of them into three or four pieces, will paste with lewa the pieces slantwise round the mould as in the case of the "sanjap" and "dawan" layers. The third class leaf so placed are called by the cake makers "gata," a close fitting dress. He will place other chits of third class leaf, smeared with lewa, inside the "gata," the second leaf of which may again be used as a "dabao," and for a third time press the whole together with his right fist. The exposed surface of the last chit, which will come in contact with the opium, will not be smeared with lewa, nor up to this stage will the portions of sanjap, dawan, and gata leaf left hanging over the mould. This completes the fourth stage in cake-making; and the lower half of the shell, which, if properly made, will in no place be less than about $\frac{1}{16}$ th of an inch in thickness, is now ready to receive the opium. All leaf must, at the different steps up to this point, with the exceptions noted above, be well spread with lewa. The Assistant Factory Superintendent's special attention will be directed to this, as cake-makers are apt to use their lewa too sparingly in making the bottom half of the shell.

321. The cake-maker will then moisten his hands with his wet rag, and being careful to remove the whole, will take the opium from his plate, and holding it up in both hands will let it fall gently, in an ovoid shape, into the half shell ready for its reception. The practice of taking up the opium with one hand and "flopping" it into the shell must be strictly forbidden, as it is apt to result in air cavities being left in the cake. He will then coax the opium upwards with one hand, so as to prevent it spreading over the edge of the mould, while, with the other hand, he will take up the over-hanging "gata" pieces, one by

one, and apply them to the surface of the opium, taking care to smear the leaf with lewa where they overlap each other. He will then smear the outside surface of the "gata" with more lewa, and will proceed to fit the cake with its "kamarband" or girdle. This he will do by tearing some three or four third class leaf in half, and applying them laterally round the "gata," tucking the lower edges well down below the margin of the mould, between the "gata" and the "dawan"; and, at the same time, turning the mould round on its base, and claspings the cake with both hands, he will press the kamarband tightly round it, thus causing the opium enclosed in the "gata" to take a conical shape. He will continue to turn the mould round, compressing the cake with his outspread fingers, partially interlocked so as to exclude all air, while at the same time he will tuck the summit of the cone of opium inside the "gata" covering with his two thumbs, taking care not to invert the edges of the "gata" while doing this, and will bring together the edges of the leaf so as to close the opening at the top of the cake as far as possible. He will now paste with lewa halves of third or second class leaf crosswise over the top of the cake, tucking the lower edges with his fingers well into the mould. This completes the fifth stage of cake-making.

322. The cake-maker will now pull up the "dawan" layer, piece by piece, and paste with lewa each piece over the cross leaves with one hand, while with the other he firmly holds together the portion of the shell already formed. He will then paste over the top the two halves of a "dawan" leaf placed crosswise, and will pull up the "sanjap" leaves and paste them down, piece by piece, with lewa. Then with his thumb and fingers interlocked, he will press the upper half of the cake on all sides equally, so as to make it as spherical as possible. He will finish off the top of the shell with odd pieces of leaf, placing over all a (so-called) chandi leaf after tearing the margin here and there in order to make it fit the shell without wrinkling. The cake is now complete, and the cake-maker will tilt it out of its mould by a gentle knock on his tray with the edge of the mould, and he will rub over the cake any small quantity of lewa he may have left, and, having smoothed down any rough edges there may be of the upper and lower chandi leaf, he will hand the cake to his boy, who will gum one of the tickets bearing the cake-maker's number, to the centre of its lower hemisphere.

323. The cake-maker's boy will then present the cake for examination to the examining sirdar at the exit door of the section. If the sirdar passes the cake, the boy will place it gently on the check scale, and if it turns the scale at the prescribed weight, he will be allowed by the weighman to take it to the trash box and will place it, upper half downwards and the portion with the ticket upwards, in the box. He will then cover a little more than half the cake, as it rests in the box, with trash; and will then place the cake, the portion covered with trash downwards, in an earthenware cup, which he will take from a stack placed within his reach by the side of the box. Having done this, he will take his cake in its cup into the yard, and place it on the ground opposite his cake-maker's signal board, each cake-maker's lot of cakes (called a "jetta,") being laid out in rows of five. The boy

will then return to the caking room to attend to the wants of his cake-maker having previously washed his hands in a vat placed for the purpose outside in the yard.

324. The prescribed weight at which a cake should be passed by the check scale at the section exit doors on the day of manufacture is 2 seers $1\frac{1}{2}$ chitaks, representing the total of the materials which go to make up a cake. As a rule, the cake will be found to be slightly in excess of this weight owing to the moisture used in handling the opium while the cake is being made, and to the slight under-estimation of moisture taken up by the leaf when wetted. When compensation has to be made on account of the presence of atmospheric moisture in leaf, or on account of the caking consistence of the opium falling below the standard of 71° , the additional weight allowed to each cake will be added to the above test weight. That it is so added, is a point to which the attention of the Assistant Factory Superintendent should be particularly directed.

325. When a cake is found at the test scale to be short in weight, the weighman will detain the cake and send for the section Assistant, who will take all necessary action. In cases of deficiency in weight (such deficiencies should rarely occur), the fault will generally be found to lie in the quantity of leaf used, pieces of leaf being sometimes broken off by accident from the bundle; it is rarely that the weight of opium can be at fault owing to the treble check on it. When such deficiencies are found, not exceeding a chitak, the section Assistant will have the deficiency made up with extra leaf and lewa after satisfying himself from an inspection of the cake-maker's lewa cup, tray, &c., that nothing has been kept back. If the deficiency exceeds a chitak, the matter will be brought to the notice of the Assistant Factory Superintendent, who will, in his presence, have the cake opened up and the opium separated and weighed to ascertain where the deficiency lies. If it is in the opium he will bring the matter to the notice of the Factory Superintendent.

326. While the caking lasts, a bell will be rung every 20 minutes to mark the time. At the full hour the bell will be rung twice. During each interval of 20 minutes, no cake-maker will be allowed to turn out more than five cakes. At least once an hour, the work of the cake-makers of each section will be checked by the caking room Assistant in charge of the section, who will go out into the yard and there count each man's cakes, the counting being rendered easy as each line represents five cakes. A man found to be making his cakes too fast will have his work stopped, or will be otherwise punished. The Assistant Factory Superintendent will also periodically, during the day, walk round the yard and examine carefully, jetta by jetta, and satisfy himself that the cakes are being properly made.

327. The above limit of five cakes in 20 minutes represents the maximum speed at which only proficient cake-makers should be allowed to work. A further check over individual cake-makers will be exercised by classing them into sections by merit, the maximum number of cakes to be made by the best sections being 70, the next in order of merit having 65 allotted to them, and so on down to 45 cakes per man as the limit of a day's work in the least proficient section

The Assistant Factory Superintendent will, however, reduce the allotted limit in a case where a cake-maker is not working satisfactorily, and if, after the number of cakes for every 20 minutes has been reduced to three, the man still fails to give satisfaction, he should be removed from his seat and punished either by being suspended for a period from his duties or sent back to the school, at the discretion of the Assistant Factory Superintendent. A man who has been passed out of the school a second time and still fails to give satisfaction should be permanently removed from the list of cake-makers.

328. As soon as the day's caking is over, each section Assistant will count the number of cakes made by each cake-maker in his section and will enter the total of each man's outturn against his number and name in the section list (Factory Form No. 56), and will then strike the total for his section. A sirdar told off for the purpose will make independently similar entries in a vernacular copy of the list, [Factory Form No. 56(a)]. The individual and grand totals of the section will then be tallied by the Assistant and the sirdar, and in the event of there being any difference the jettas concerned will be immediately checked, and the correct total ascertained. When the counting has been completed, the section Assistant and sirdar will each sign their respective copies of the list, and make them over to the Assistant Factory Superintendent.

329. The Assistant Factory Superintendent, having satisfied himself that the counting has been correctly recorded, will then make the English lists over to two permanent Factory Assistants and the vernacular ones to two selected sirdars, one of whom will be the head sirdar. To each Assistant, who will be accompanied by one of these sirdars, he will allot a certain number of sections for a thorough examination of the newly made cakes, taking care that the same sections are not examined every day by the same Assistant. All faulty cakes will then be taken out, marked with a blue ticket close to the cake-maker's ticket, and will be set in front of the jetta to which they belong, the Assistant and the sirdar each showing the number of such faulty cakes in the proper column against the cake-maker's name in the section list. When the whole of the day's manufacture has been thus examined, the section lists will again be returned to the Assistant Factory Superintendent with the signature of the Assistants and sirdars on their respective copies. The Assistant Factory Superintendent will then once more inspect the jettas and satisfy himself that the work of examination has been properly done. He will then check and initial the section lists, and they will be made over to a clerk who will daily post up from them the column of the monthly register of cakes made by each cake-maker (Factory Form No. 57) and who will at the conclusion of each month also post up the abstract of bad cakes (Factory Form No. 57a).

330. While the examination of cakes is proceeding, the cake-makers and their boys will wash their hands, trays and vessels in the water vats at the verandah doors, and the caking room will be cleaned out ready for the next day's work. The Assistant Factory Superintendent will depute one caking room Assistant daily to see that all the washings of the seats, trays, &c., are carefully collected and sent to the dhoikhana where, under the supervision of the lewakhana Assistant, it will be set apart in a special vat.

331. At the close of each month the office will prepare, from the monthly register of cakes, a contingent bill of the amount due to cake-makers for the number of cakes made during the month. The monthly register will show against each name the total number of cakes made by the man, deduction for faulty cakes at the rate of two cakes for every such cake shown in the monthly cake register, the net total for which payment is due, and the amount payable after deducting any fines that may have been imposed. The contingent bill will merely show the grand total of the net number of cakes made by all the cake-makers, payment for them at the rate of 10 cakes for an anna, and the total deduction on account of fines. Every effort should be made by the office to ensure the payment of this bill not later than the 15th of the month following that on which it has been earned.

SECTION V.

Storage of cakes after manufacture.

332. When the examination and counting of the cakes is finished a special staff of coolies will arrange them into blocks of 500 or 1,000, as may be found most convenient, in the open yards round the caking room where the cakes are lying. When the entire number has been so arranged in blocks, the permanent caking room Assistant will, in company with the Assistant of the godown into whose charge the cakes will pass, tally the number with the number obtained from the total of the several section lists; and if the grand total is correct, the matter will be reported to the Assistant Factory Superintendent, who will then personally count the blocks in thousands and the odd number over, and if everything is satisfactory he will enter in the receipt book of cakes (Factory Form No. 58) the number of cakes sent to the receiving godown, and the consistence of the day. To facilitate work two godowns, but not more, can receive cakes at the same time. When this is done the Assistant Factory Superintendent will have the blocks intended for each receiving godown chalk-marked on the ground, when each of the two Assistants will count and take over the cakes allotted to his godown.

333. In checking the list of cakes counted in, the Assistant Factory Superintendent should tally the number with the number of tin tickets, each representing 10 cakes, passed out of the caking vat room and into each section during manufacture. The number of cakes manufactured should therefore always be a multiple of 10, the small amount of opium remaining after manufacture (generally representing the scrapings of the vats) being thrown into the vats under preparation for the next day's manufacture. The Assistant Factory Superintendent having satisfied himself of the actual number of cakes manufactured, will now write up his register of caking results, and the stock book of cakes (Factory Form No. 59).

384. The cakes will be allowed to remain in the yard exposed to the sun until about 2 p.m., when they will be barrowed off to the receiving godowns by a special staff of coolies, under the supervision of the godown Assistants, the barrows being constructed to hold 15 cakes each. For the orderly performance of the duty the Assistant Factory Superintendent will depute one of the temporary caking room Assistants to supervise the work in the yard. As each cake is placed on the barrow it will be turned in its cup so as to expose the lower half of the cake. This turning will not be done with the hand, but by an inverted cup being placed over the cakes, and the cakes being turned into it as the inverted cup is placed on the barrow. As the cakes are being barrowed in, a tally will be kept of the barrows at the doors of the receiving godowns by two men, one of whom will call out the number of each barrow as it passes the wicket and the other, who must be one of the godown sirdars, will record it in a register. (Factory Form No. 59A.) After the completion of the work the tally will be compared with the list of cakes counted previously, for the satisfaction of the godown Assistant, who will then sign the receipt book of cakes as his acknowledgment that the full number of cakes has been received by him for storage in his godown. He then becomes responsible for their charge. A report of the tally should be made the same evening to the Assistant Factory Superintendent who will inspect and sign the tally books.

385. The faulty cakes will be removed last, and the next morning will be laid out for the examination of the Assistant Factory Superintendent, who will note the cake-makers on the list against whose names they appear, and whether any punishment should be inflicted on them. He will also cut open at least 15 of these cakes to examine them more carefully, and to ascertain and point out to the cake-makers the exact nature of their defects; a similar number will also be cut open by the Factory Superintendent. These faulty cakes will then be opened up and remade by special cake-makers under the supervision of the Assistant in charge of the cake godown in which they are lodged, who will show them in his godown register as repaired cakes.

386. On the morning after the cakes have been received into a godown, the Assistant in charge will select 100 of them at random. These he will have weighed in his presence singly, and the weights recorded in a register (Factory Form No. 60). He will then bring out at the foot of the register the maximum and minimum weights recorded, and also the average weight of the day, and will sign and submit the register to the Assistant Factory Superintendent, who will examine and sign the record and submit it for the information and initials of the Factory Superintendent. When two godowns are receiving cakes simultaneously, this record of the weight of cakes will be made in each godown on alternate days, so as to ensure one daily record.

387. The cakes, after having been tallied into the cake godown in the manner described above, will be placed on the racks in their cups. The racks in each godown will be numbered consecutively, and each block will contain a certain fixed number of cakes. On the block will be affixed a slip (Factory Form No. 61) showing the number of cakes in the block and the date of receipt, which will be the date

of manufacture or "sattai." Two permanent sirdars will be told off to each godown, one of whom will be the head sirdar of the godown and will be answerable for the musters of the coolies employed and the general control, while the work of supervision over the daily work will be divided off by the Assistant in charge between the two sirdars.

338. From the time the cakes enter the godowns until they are packed they must be constantly turned in their cups in order to preserve uniformity in their shape and to allow the shell to dry evenly; and all the cakes on each block of racks must be turned in rotation every fourth day. By "turning" is meant that the cakes will be brought down from their racks to the floor, where they will be removed from their cups, spun round by the boys in both hands, so as to lightly hand-rub them, and be replaced in their cups, which will first be wiped out with a piece of cloth. Each turning will expose a fresh surface of the cake; the exact position exposed, whether the smooth or rough half, or the side, being defined in column 2 of the slip on the block. During damp weather when the cakes and cups get mildewed, they will be rubbed with trash to take off the mildew. When holidays intervene, arrangements should be made for the turning of cakes every other day, so that cake godowns are not kept closed for two consecutive days.

339. Before the cakes are put up again they will be examined by the Assistant in company with the sirdars, who will examine the blocks that have been emptied and satisfy themselves that all the cakes on them have been brought down and properly cared for. The Assistant will write up the slip affixed to the block and will initial it. The boys will then proceed to put up the cakes again, and, in doing this, will so arrange that the cakes that were before on the lower racks will now be put on the upper tiers, and those that were on the upper tiers will be put in the lower. The object of this is to promote uniformity of dryage, as cakes in the upper racks, being nearer the roof, are apt to dry more quickly.

340. The boys employed in the work of turning the cakes will place on one side all cakes which show signs of injury by grubs, black mould, leakage, &c., or which appear to need repairs. These cakes will be examined by the Assistant in charge of the godown, who, if he considers repairs to be necessary, will take the orders of the Assistant Factory Superintendent regarding them.

341. All requirements for "lewa" and leaf for petty repairs, and for cups and trash for the use of a cake godown will be indented for by the Assistant in charge through the Assistant Factory Superintendent and Factory Superintendent. The Assistant in charge will keep a daily record of these receipts, as well as a record of the cakes received into the godown, the cakes turned, the number repaired or damaged, and all other details connected with his charge in his godown register (Factory Form No. 62), which will be submitted weekly for the inspection and initials of the Assistant Factory Superintendent. This register will also be submitted weekly for the inspection and initials of the Factory Superintendent, unless that officer inspects it periodically during his rounds.

SECTION VI.

Sattai of cakes.

342. The operation of 'sattai' includes the systematic overhauling of all the cakes of the season for such repairs as may be necessary, and for giving them their finishing touch with the leaf and 'lewa' still remaining to complete the weight of materials allowed to each cake. This operation will be undertaken when the shells of the earliest manufactured cakes have sufficiently hardened to the touch, which will usually be about the first week in August. The order appointing the date for "sattai" will be published by the Factory Superintendent in the Factory order book, when the Assistant Factory Superintendent will make all necessary arrangements.

343. The work of "sattai" will be under the immediate and effective supervision of the Assistant Factory Superintendent, under whom will be placed one permanent and one (or two) temporary Assistants told off for the work by the Factory Superintendent. There will be 1 supervising sirdar to every 20 cake-makers, and the number of cake-makers will be regulated by the number of cakes to be sattai'd daily. Ordinarily about 20,000 cakes will be sattai'd daily with 200 cake-makers, besides 1,000 cakes which will be allotted to the school. To every two cake-makers there will be one boy. The work will be carried on in the caking room, which will be divided off into sections for easy control by the number of Assistants available. Each cake-maker will be supplied with the same apparatus as at cake-making; and there will also be a 'tagarful' of finely sifted trash between every two cake-makers.

344. The 200 cake-makers intended for 'sattai' will be selected from the cake-making staff, preference being given to good cake-makers from the senior sections. The men will be graded as follows:—

1st grade	...	25 men on Rs. 7	a month;
2nd "	...	25 "	6-8 "
3rd "	...	50 "	6 "
4th "	...	50 "	5-8 "
and the remainder...		on Rs. 5	a month.

Payment by piece-work is not permitted at "sattai" as the amount of work allotted to each man is the same, the differentiation into grades being intended to reward merit for good and steady work.

345. The cakes will be "sattai'd," as far as possible, in the order of their manufacture, beginning with those which were first made. For convenience in working, where a small godown cannot without difficulty issue and receive back 20,000 cakes daily, the Factory Superintendent may, at his discretion, direct the simultaneous "sattai" of the cakes of two such godowns which were manufactured simultaneously or in consecutive order. In such cases every precaution will be taken by the Assistant Factory Superintendent to prevent the cakes of the two godowns getting mixed, each godown being restricted

350. Cakes marked for tightening will be treated as follows:— Should the shell be very loose, the cake-maker will grasp the cake, soft side downwards, in both hands, pressing meanwhile his fingers upwards so as to form an indentation at the soft spot, and to force the opium tightly into the opposite part of the shell. The cake will then be inverted and placed in the mould with the indentation upwards. A cruciform incision, about four inches in length in each direction, will then be made with a sharp knife across the depressed portion until the opium is reached. The corners formed at the centre of the cross will then be taken up one after another, layer by layer, and turned outwards. The opposite corners of the “gata” layer will be drawn tightly together over the opium, one pair at a time; over the four overlapping corners a piece of leaf will be pasted with “lewa”; the next four corners will be brought together and secured with “lewa” in a similar manner, and a piece of leaf will be pasted over them. The operation will be repeated until all the separate layers of the shell have been disposed of. A sound leaf will then be pasted over the last layer, and the cake will be “sattaied” in the usual manner. If the cake to be tightened is not very loose, it will be placed in the mould soft side uppermost, and the baggy part of the shell will be squeezed upwards so as to form a ridge. This will then be incised lengthwise and across, and the shell will be tightened, and finally “sattaied,” in the manner described above. In tightening and repairing cakes, the cake-makers will be allowed to use moist rags for moistening their hands.

351. Another method of tightening cakes is to stop the incision before it reaches the opium, and to then press the “gata” layer inwards with the finger so as to form a fold inside the opium. The two walls of the fold are then drawn together, and kept in position by a piece of leaf pasted across them with “lewa,” over which the corners of the cut layers are fastened, one after the other, in the manner described in the previous rule. The better method, however, is the one first described.

352. Cakes “sattaied,” tightened, or repaired will be carried by the boys and placed in “jettas” against the numbers of the cake-makers in the verandas or other place set apart for the purpose. The cakes as they stand in the “jettas” will be counted and examined carefully by a section sirdar and the Assistant in charge of the section; they will also be examined by the Assistant Factory Superintendent, when they will be removed in barrows to the cake godown. The Assistant in charge of the issuing godown will be answerable for the proper tallying out and tallying back of the barrows, and he will also see that in replacing the cakes on the racks they are properly handled, so that the newly “sattaied” surface is in no way damaged.

353. The speed at which cake-makers are allowed to work will be regulated, as at manufacture, by the ringing of a bell every twenty minutes, and no cake-maker will be allowed to “sattai” more than 10 cakes in each interval, or 30 cakes in an hour. The rate of work will be checked at intervals by the section sirdars and Assistants, and cake-makers who, after warning, persist in working too fast will be brought to the notice of the Assistant Factory Superintendent for punishment by suspension, fine, or removal.

in charge of the godown personally. The weighment register will, on each occasion, be submitted to the Factory Superintendent for inspection through the Assistant Factory Superintendent. Care must be taken that each batch of 40 cakes is returned to the place in the racks from which it was taken.

358. When the average weight of the cakes of a godown that were first manufactured approaches the normal packing weight, viz. about 2 maunds 1 seer per 40 cakes, the cakes will be further tested for ripeness by handling. A cake which, after firm continuous pressure by the palms and fingers of both hands, gives a uniform unchanging sensation of cold, is not yet matured or ready for packing. If, on the other hand, the sensation conveyed is one of warmth, the cake may be considered fit for packing. The Factory Superintendent will take into consideration both the weight of the cakes and their fitness for packing before he decides on the date packing should begin. The above is the approximate average weight in a normal season. It will be subject to slight variations in seasons of unusual drought or rainfall. The cakes will usually be found fit for packing about the first or second week in November.

SECTION VII.

Caking School.

359. During the manufacture and "sattai" of cakes, one section in the caking room will be specially set apart as a school. It will be for the purpose of teaching the art of manufacturing, "sattaining" and repairing cakes to persons who may be thus fitted to supply vacancies occurring among the cake-makers. The number of persons under training in the school should be about a fifth of the total number of proficient cake-makers employed at the Factory. The scholars will be recruited from among the promising cake-makers' boys or other lads of superior physique and intelligence who may apply for admission. The school will be under the supervision of the Assistant Factory Superintendent, who will make all appointments to it.

360. With the approval of the Factory Superintendent, the Assistant Factory Superintendent will appoint two or more permanent sirdars of known proficiency in cake-making to act as instructors; each instructor should have not more than 20 scholars under his control. The school, like any other section of the caking room, will be supervised by one of the section Assistants, and have an examining sirdar at the exit gate. The school hours will be the same as the hours for cake-making, and during this time the pupils will be kept steadily to their work.

361. There will be two grades of scholars, the first or proficient grade drawing pay at the rate of Rs. 4-8 a month; the second grade drawing pay at Rs. 4 a month. There should not be more than one-half the total number of scholars in the first grade, all promotions being made to it, after careful inspection of their work, by the Assistant Factory Superintendent. The scholars should be ranged in their section according to their grades.

362. The speed of work in the school should be very carefully regulated. The maximum number of cakes that a scholar of the first or most proficient grade will be permitted to make will be 2 in every 20 minutes, or 25 in a day; but in special cases those who are, in the opinion of the Assistant Factory Superintendent, fit to fill vacancies among the cake-makers will be permitted by him, before being drafted out, to work up to three cakes in every 20 minutes, or 40 cakes in a day. In all cases where proficiency has not been attained, the scholars will not be permitted to turn their cakes out of their moulds until they have been examined and passed by one of the instructors.

363. All vacancies in the list of cake-makers will be filled by the Assistant Factory Superintendent from those who have passed through the school and learnt their work to his satisfaction. Vacancies will not be filled up in any other way.

364. The school will be re-opened at "sattai," and the operations of "sattai" and of petty repairs will then be taught under the same rules and conditions as during cake-making.

SECTION VIII.

Diseases of cakes and injuries to them.

365. The shell of the opium cake is a fragile organic material, readily susceptible to decay and destruction. From within the ravages of animal life, generated under favourable conditions from ova lying latent in the very leaf of the shell, have to be guarded against, and from without there is the equally destructive vegetable fungoid growth known as black mould. Accidental causes, such as leakage and falls from a height, add a small quota to the injuries to be guarded against.

366. The animal life that has been found to be generated within the shell of an opium cake is commonly known in the Department under the name of "grubs" (a species of "anobium"). Damage to an opium cake shell from grubs is first noticeable by either a minute circular hole in the surface of the shell, or by excreta visible between the layers of leaf in the cake where they overlap. An examination of the cake by gradually following the line of excreta, as the neighbourhood of the suspected part is opened up, will show the ramifications of the grubs, extending under favourable circumstances, far between the leaf and deep into the shell. The same grubs that attack the cake shells are also found, under favourable circumstances, to attack leaf stored in the Factory. As they are not found to attack anything else, it is assumed that the leaf of the shell offers a favourable nursing ground to these destructive organisms.

367. The grub has been found to exist and thrive under the following conditions:—

- (i) continued dampness in the atmosphere;
- (ii) dampness arising from defective drainage around, or from the roofs of buildings used as, cake godowns;
- (iii) defective ventilation in the cake godowns;

- (iv) carelessness in the timely and proper turning of cakes, whereby the surface not exposed sufficiently is attacked ;
- (v) defective manufacture of cakes by leaving patches in the leaf unsmeared with "lewa."

368. To reduce risks from dampness the following points should be kept in view :—

- (a) on a damp rainy day all the glass windows and skylights of a cake godown should be closed, and the damp air kept out as much as possible ;
- (b) if it is a very wet day the turning of the cakes should be deferred, provided this is not done two days in succession ;
- (c) the hanging up of the wet clothes of the godown coolies to dry should be strictly prohibited inside the godown ;
- (d) on the first fine day after the rain the cakes (if not too immature), and the inside of their cups, should be rubbed with fine dry trash, to remove any mould there may be, as well as to absorb all superfluous moisture from their surface ;
- (e) structural defects in cake godowns, such as defective drainage and ventilation, should be remedied, and leakage prevented.

369. After a fall of rain likely to have caused leakage, all the racks will, without loss of time, be carefully examined in order to ascertain whether any cakes have been damaged. Should the occurrence of a close holiday be likely to interfere with the performance of this duty, a special sirdar with a gang of boys will be told off for it beforehand. The Assistant in charge of each godown will also attend on such occasions, and supervise the work, reporting to the Factory Superintendent the extent and nature of the damage done, if any, in a register kept for the purpose (Factory Form No. 66), the damaged cakes being separated under the heads (i) slightly or superficially wetted, and (ii) badly wetted.

370. The cakes damaged and shown under the first head should at once be buried in fine dry trash, which acts as an absorbent for the excess moisture taken up by them, and in this trash they should remain till the next morning, when they should be rubbed and placed in dry cups. On the first sunny day these cakes should be put out in the sun for a few hours, being turned in their cups occasionally while being so sunned.

371.* Those badly wetted require careful treatment. The wetting in this case is more than superficial ; it has penetrated the shell, soaking the part penetrated and making it pulpy. If left alone, or only treated as a slightly wetted cake, the danger of grubs, black mould, or dry rot is increased. The only safe course therefore is to operate on the cake within 24 hours after the damage is noticed and to cut away the part so damaged. Each leaf that has been soaked through should be carefully removed, until a dry surface is reached, and the part so laid bare should be remade with fresh leaf and "lewa" in the manner laid down for repairing cakes.

372. If in spite of precautions cakes are found to be attacked by grubs, the affected part should be treated by opening out the ramifications of the grub with a penknife, and by removing the grub if found. The incisions should be well brushed to remove all ova and

excrementitious matter, after which "lewa" will be copiously applied and well rubbed in with the finger, and the opening finally sealed up with leaf.

373. Cakes are attacked by three descriptions of mould, the white ("dactylum"), the yellow ("mucor"), the black ("ustilago"). The first two have been found to be perfectly harmless. They are present in a greater or less degree according to the continuation of damp or cloudy weather, and they are easily detached by rubbing with cloth or trash in the usual process of turning cakes, without leaving behind any ill effects.

374. Black mould is a fungus which attacks animal and vegetable substances; it is propagated by spores, which reproduce under favourable conditions of weather when rainfall is heavy and cloudy days predominate. It always attacks from without and not from within, the first sign of an attack on an opium shell being a black speck, on the surface, or at the junction of two layers of leaf. This speck, if rubbed, leaves on the finger a black streak as from a piece of wood charcoal. If the attack has been allowed to go on for some time, it will be found, on gradually opening up the cake, that the fungus has penetrated the shell by insinuating itself between the layers of leaf, and has made for itself nests in parts devoid of "lewa", scrupulously avoiding those parts well smeared with it. In each one of the little nests described above, the process of destruction and decay is carried on, and according to the number of them, the undermining, so to speak, of the shell is more or less complete, making it liable to break down under the most ordinary strain.

375. All cakes found with the faintest suspicion of black mould should be at once isolated from the healthy cakes and kept separately. By chipping off a small portion of the leaf in the immediate proximity of the speck outside, it can be ascertained whether the mould has penetrated. If it has not, the fungus growth should be removed entirely by brushing with a hardbrush the part affected; "lewa" should then be freely applied to that part. If it is found that the mould has penetrated, then the shell should be laid bare gradually by following with a penknife the track of the mould until the whole of the affected part has been removed. This portion of the shell must then be remade in the ordinary way, "lewa" being freely used for it. Cakes affected with black mould should be kept distinct, even after the necessary repairs, so as to ensure the certainty of their being effectually cured.

376. Under the head of accidents other than from leakage we have—

- (a) fracture due to fall from a height;
- (b) bruises from rough handling;
- (c) damage from the nibbling of mice, rats, and civet cats.

377. Bruised and nibbled cakes are easily repaired by treating the part affected with a little "lewa" and leaf, and dusting it over with fine trash. A fractured cake needs the skill of an experienced cake-maker, and should be opened out and remade in the manner laid down for repairing cakes at "sattai." It may even be necessary, in the case of a badly fractured cake, for the Factory Superintendent to decide whether the cake should not be taken off stock, broken up, and the opium transferred to the "Lewa" Department. This course should be adopted in every case where there is a suspicion of opium having exuded and having been lost.

CHAPTER VII.

PACKING AND DESPATCHING OF PROVISION OPIUM.

SECTION I.

Preliminary arrangements.

378. The Factory Superintendent is immediately responsible for the due observance of the rules for the packing of provision opium and the despatching of packed chests to Calcutta.

379. It is his duty to ensure in advance the replenishment of packing stores, and to satisfy himself that all descriptions of material sufficient for packing the season's outturn are ready at the Factory each year by the 31st of October. Part II of the Stock and Manufacturing Account, which is submitted daily during manufacturing operations, and weekly for the rest of the year, should give a sufficient indication of the way packing stores are being replenished. The store-keeper will also keep up and submit monthly an account of the receipt and expenditure of mango-wood chests (Factory Form No. 67), which, after countersignature by the Factory Superintendent, will be forwarded to the Opium Agent.

380. The Factory Superintendent will, in good time, submit through the Agent his indent on the Government Press for tickets (Factory Form No. 68) for the number of chests to be packed, and for special tally sheets (Factory Form No. 69). The tickets will be printed in full, with blank spaces for the date, the scale number, the packing weight for the day, and the signature of the scale Assistant, and they will be numbered consecutively by the Press from one to the last number of the chest to be packed in the season. The tickets should be received at the Factory not later than the 15th October in each year, when all their numbers will be checked in the Factory Superintendent's office, and they will be stored away, in bundles of 500 consecutively, for use as required.

381. The Factory Superintendent will fix the date for commencing the season's packing some time in advance, so as to allow of arrangements being made with the railway company for special trains. His proposals will be submitted for the approval of the Opium Agent and the Board.

382. If manufacture was begun on or about the 1st May, the first made cakes should be ready for packing by the first or second week in November. In fixing the packing date consideration should be given to the character of the rains, and the consistence at which the cakes were made. Under normal conditions it would be safe to begin packing between the 5th and 10th of November. If the rains have been heavy or late, or if consistence has been exceptionally low, a later date, between the 10th and 20th of November, would be advisable.

The precautions indicated in Rules 356, 357, and 358, for watching the condition of the cakes on racks and their rate of dryage, should assist in deciding whether the packing date should be early or late.

383. After the cakes have sufficiently matured, and before packing is begun (generally about the 15th of October), the Opium Agent, or the Factory Superintendent with the authority of the Agent, will invite the Magistrate of the district to visit the Factory for the purpose of selecting cakes for examination and analysis. Six cakes will be selected at random by the Magistrate from the provision of the year. Two of the cakes so selected will be despatched for examination and analysis to the Chemical Examiner to Government at Calcutta, two will be despatched to the Opium Examiner at Patna, and two retained at the Factory for a similar purpose. The cakes for Calcutta and Patna will be packed in the presence of the Magistrate, and the boxes sealed with his seal. Intimation of the selection and despatch of the cakes, together with the Magistrate's certificates, will be sent to the Board of Revenue, Calcutta, and to the Opium Agent of Bihar through the Agent.

384. The cakes will invariably be packed in the order of their manufacture, provided that the cakes of two godowns of consecutive order of manufacture may, for the purpose of packing, be mixed together, except when they are of different caking consistencies. In this case the packing of the cakes of the consistency first manufactured will be completed, in chests consecutively numbered, before the packing of the next consistency is commenced.

385. Two days before packing begins, the Assistant Factory Superintendent will have 2,000 cakes, the equivalent of 50 chests, taken at random from different parts of each of the godowns from which the cakes are first to be packed, and will have them weighed, and the average weight of 40 cakes of each godown thus found will be reported to the Factory Superintendent. That officer will thereupon record the packing weight at which the work is to begin. The average weight of 40 cakes of each of the other godowns will be similarly ascertained two days before the godown begins to issue for packing, and the Factory Superintendent will alter the packing weight, according to circumstances, the authority for the packing weight of each day being recorded in the register of packing weight (Factory Form, No. 70).

386. The packing weight is usually taken at 1 or 2 chitaks below the average weight of the cakes to be packed; this margin compensates for the gradual loss in weight extending over the 10 or 12 days a godown, or a combination of godowns, is issuing to the scales. The packing weight should never fall below 2 maunds for 40 cakes.

387. The Factory Superintendent will see that all arrangements affecting the packing and despatching of provision chests are made sufficiently in advance of the commencement of work. The important points to which attention is necessary are—

- (a) the approval of the Board of Revenue, through the Opium Agent, to the date fixed for the packing to begin, so that the necessary arrangements may be made in Calcutta for the receipt of packed chests;

- (b) arrangements with the railway authorities, for special trains on fixed days in the week, for the through booking and conveyance of the chests from the Factory siding to the Jetties (Calcutta) so as not to clash with the arrival in Calcutta of special trains from the Patna Factory.
- (c) arrangements with the District Superintendent of Police, Ghazipur, who will supply the necessary guard, (i) for the protection of chests while being loaded into wagons, and of the locked and sealed wagons containing chests which remain at the Factory siding; and (ii) for escorting special trains to the Jetties in Calcutta;
- (d) application to the Traffic Manager, Bengal and North-Western Railway, for free passes for the guard escort to and from the Jetties, and for the Assistant deputed annually to Mokameh, and every second year to Calcutta;*
- (e) appointment of the necessary temporary establishment to supplement the permanent staff of Factory Assistants.

SECTION II.

Examination of packing material.

388. It is primarily the duty of the storekeeper to see that all chests and lids are properly seasoned and fit for use in packing before he issues them. He will be assisted in the examination of the packing material under his charge by a permanent carpenter and a sirdar, and, if necessary, by a temporary Assistant, who will be appointed by the Factory Superintendent. Besides the above, there will be a special sirdar (permanent or temporary) told off by the Assistant Factory Superintendent to supervise, under the order of the storekeeper, the drying, counting, and sorting of each of the several packing articles, viz. chests, lids, compartments, and mats.

389. No chest, lid, mat, or compartment will be issued for packing which has not been stored in the Factory for at least three months previously. In the case of chests and lids received from the Patna Saw Mills this condition is easy of observance, as they will have the serial number of the chests and lids and the month and year of their manufacture stamped on them. If at any time chests and lids are locally obtained, they will be similarly numbered serially, and the month and date of purchase or manufacture stamped on them.

390. All chests required for the season's packing will be thoroughly overhauled and will undergo "first dammering" some time in advance, the work commencing early in August, and being completed by the 31st October. This process will mean petty repairs to, and the dammering of, all joins and cracks in a chest, the lid only being left to be dammered when the chest is packed. An account of the repairs

* An Assistant is deputed to Calcutta from the Ghazipur and Patna Factories in alternate years.

done to such chests will be kept in a register (Factory Form No. 71), which will be regularly submitted by the storekeeper for the Factory Superintendent's signature.

391. All chests and lids intended for packing will be thoroughly sun-dried for at least two days before issue. On the first day of sun-drying, the storekeeper's Assistant, with the help of the permanent carpenter and a sirdar, will carefully examine and initial each chest and lid which is passed as fit for use. On the day before issue the storekeeper will himself make a final examination of each chest and lid singly, and will chalk-mark his initials on each lid and on one inside wall of each chest as a token of their fitness for use in packing. During the intervening nights the chests and lids that are being sun-dried will be carefully placed under cover, and protected from exposure to the dew. No chests or lids will be brought out from under cover, either for packing or sun-drying, sooner than one hour before that fixed for packing to commence.

392. In the examination of chests and lids the attention of the storekeeper and his Assistant should be directed to the following points:—

- (a) that every chest and lid is shown, by the date it bears, to have been stored in the Factory for not less than three months;
- (b) that it is thoroughly seasoned and properly dry;
- (c) that it is free from "goon" and dry rot;
- (d) that it has no bad cracks.

393. Chests and lids suspected of being damp or presenting a mildewed surface will be chipped with an adze in order to determine whether the dampness—

- (a) is superficial owing to surface condensation of atmospheric moisture;
- (b) is due to the wood being unseasoned;
- (c) is due to the chests and lids being wetted by leakage.

394. In any case the chest or lid, if found to be damp, will be returned to the Chest Department. In case (a) a few days sun-drying will render the article fit for use. In case (b), the defect being of a more permanent nature, the article will be returned to stock and will not be again issued for use until the ensuing season. If the dampness is superficial, the deeper the incision, the drier the wood will be found to be. The contrary will be the case if the dampness is due to the wood being unseasoned. In the case of sal-wood, unseasoned wood may be further recognized by the pink fleshy appearance, which will be found to extend throughout the length of the plank presented by the interior of the wood. If, however, the wood has been wetted after being properly seasoned, this sign will be absent; the dampness will also extend only to that portion of the plank which has been exposed to the action of the water.

395. If the storekeeper or his Assistant considers that any chests or lids should be rejected as unfit for present use, by reason of their being damp or unseasoned, he will set them aside for the inspection of

the Factory Superintendent, and that officer will pass suitable orders regarding them. If the Factory Superintendent directs chests and lids so set aside to be rejected as unfit for present use, he will cause his orders, the reason therefor, and the date, to be noted in chalk upon each article. All rejected provision chests that cannot be repaired and made fit for packing provision opium cakes will after the conclusion of packing or at any other suitable time, as directed by the Factory Superintendent, be broken up, and converted into chests for abkari opium. An account of this operation will be kept up in a special register, which will be submitted daily for the inspection and signature of the Factory Superintendent (Factory Form No. 72).

396. In the examination of chests and lids, previous to packing, the carpenter and sirdar will ring with a chalk mark any water stains found by them. The storekeeper or his Assistant will examine every such water stain, and if on examination the chest or lid so marked is found to be dry and fit for use, he will pass it for packing by adding his initials inside the chalk ring. This mark will be allowed to remain permanently on the chest or lid as evidence of the stain having been noticed and examined.

397. Compartments will be put together in sets under the orders of the storekeeper. They must all be thoroughly seasoned, dry, free from "goon" and with all the partitions complete, or so far complete that there will be no danger of two adjacent cakes touching each other when placed inside a chest. Like chests and lids, compartments, after being put together, will be sun-dried for at least two days before being used.

398. The storekeeper will cause the mats to be properly sun-dried on at least two days before they are used, and he and his Assistant will satisfy themselves as to their dryness and soundness before he allows them to be issued for packing.

399. After completion of the examination the chests for the next day's packing will be ranged in the place allotted for the purpose, under the orders of the Assistant Factory Superintendent, according to the requirements of each scale; and they will be serially numbered with the packing numbers for the day by the Factory painter. These numbers will be checked before the Factory closes in the evening, by the ticket boys of each scale, and chalk numbers in Hindi will also be inscribed by the dandidars of each scale as a further check.

400. At the end of each day's work, both during "first dammering" and packing, the storekeeper will submit a report (Factory Form No. 73) showing the number or quantity of each description of packing stores issued for the day's work. The report during packing will further show in the remark column the date and year to which the chests and lids used during the day's packing belonged, as shown by the date stamped on them; the reason for the issue of any stores in excess of the authorized allowance, and also any other special points connected with the day's issue of packing stores. This report, with the Factory Superintendent's signature, will stand as the authority to the storekeeper for the issue of the requisite packing stores, and the adjustment of his books.

401. The storekeeper's Assistant will also submit daily to the Factory Superintendent a report (Factory Form No. 74), attested by the storekeeper, showing the amount of work done by him in his examination of packing stores, and the number of each description of packing material rejected during the examination.

SECTION III.

Trash for packing.

402. The Assistant in charge of the Trash Department is primarily responsible that sound, clean and dry trash only is issued for packing.

403. All trash for packing purposes will be sun-dried for two days previous to its being required, the trash for the first and the second day's drying being spread out in separate parts of the leaf compound so as not to get mixed.

404. Each morning, between 9 and 10 A.M., the Assistant in charge will cause the necessary number of bags of cleaned trash for the first and second day's drying to be taken out of the godowns, and the contents to be spread out in the sun on waterproof paulins. There the trash will be stirred with rakes at intervals of one hour, so that the whole quantity may be exposed to the action of the sun. The trash will also be searched by women for sticks or other foreign substances which are apt to damage cakes in packing. The empty bags in which the trash is stored for the night, or conveyed to the packing room, will also be laid out in the sun to dry.

405. The Assistant in charge of the Trash Department, with the help of his sirdar, will carefully examine all the trash that has been laid out to dry, and will satisfy himself that it is neither damp, musty, nor heated, and that the bags are perfectly dry. Should the Assistant have doubts as to the fitness for packing of any portion of the trash, he will at once bring the matter to the notice of the Factory Superintendent by a report in his memorandum book, and take that officer's orders before sending the trash to the packing room.

406. Between 1 and 2 P.M., if the examination is considered satisfactory, the trash laid out to dry will be replaced in the bags, and the portion which has undergone two days' drying will be conveyed into the packing room, where the bags will be emptied out on waterproof paulins in convenient heaps, and in places specially set apart for the purpose; while the bags which contain trash, sun-dried for one day only, will be placed for the night in a godown, on a bedding of coarse trash. The whole of the trash will thus remain under cover for the night.

407. Early on the morning of each packing day, the Assistant Opium Examiner will cause to be taken in his presence several samples from the heaps of sun-dried trash stacked in the packing room for the day's work. All these samples will be mixed together in the laboratory, and out of the mass one sample of 5 seers will be carefully weighed, steam-dried at 260° Fahr. for at least three hours, and reweighed until the difference in loss by two successive reweighments is imperceptible.

408. The final result of the steam-drying will be recorded in Factory Form No. 75, and will be submitted daily to the Factory Superintendent for his inspection and initials. The loss in weight will be shown in kachas, and if it does not exceed 24 kachas in 5 seers, the Factory Superintendent will allow the packing to proceed; but should the loss exceed 24 kachas in 5 seers, the trash will be deemed unfit for use, and packing will be deferred and the matter at once reported to the Agent. Every effort will meanwhile be made by means of sun-drying to render the trash at the Factory fit for use.

409. The issue of the trash will be made on indent (Factory Form No. 26), submitted by the Assistant Factory Superintendent, which will show the quantity of trash required calculated on the number of chests to be packed, and the rate of trash per chest based on the results of the daily examination of packed chests (*vide* Rules 424 and 425), plus 1 or 2 seers per chest in excess, as wastage during sun-drying and packing.

SECTION IV.

Control and general arrangements.

410. Packing will be conducted under the general superintendence of the Factory Superintendent, under whom the Assistant Factory Superintendent will be in direct executive charge.

411. The Assistant Factory Superintendent will be present during the whole time packing is going on, and will maintain an active supervision over the work in all its stages. His control of the work does not cease for the day until the last chest is dammored, and the chests securely locked in for the night by himself, the key of the outer lock of the packing room being retained in his possession.

412. He will be careful to ascertain from the Assistants if they have any complaints to make regarding the quality of any of the packing materials, or of the cakes; he will keep a diary in which he will note whether any complaints of the kind have been preferred or not; the nature of the complaints, if any; by whom made; and the action taken by him; and any other circumstances of importance coming to his notice or occurring during the day. This diary will be submitted daily for the Factory Superintendent's information and orders, and the Factory Superintendent will sign it, recording any remarks or orders he may consider necessary.

413. The Assistant Factory Superintendent will, under the orders of the Factory Superintendent, exercise direct control over the whole subordinate packing staff, and will see that only men with previous knowledge of packing work, as far as available, are employed, and that no new hands are taken on who do not show aptitude for the work.

414. During packing a daily record, in the form prescribed for trash assay, will be kept by the Assistant Opium Examiner of the temperature shown by the wet and dry bulb thermometers, of the humidity of the atmosphere, of the state of the sky, and of the direction of the wind, the observations being taken immediately before the hour fixed for the commencement of packing and also at 3 P.M.

415. The above record will be placed before the Factory Superintendent at 10 A.M. daily for his inspection and initials, and on the observations recorded and on the general appearance of the weather, the Factory Superintendent will decide whether packing is to proceed or not.

416. Packing will go forward on dry days only, and it will be suspended during damp, cloudy, or rainy weather. Packing will in no case go forward on days when the relative humidity of the atmosphere exceeds 75°, saturation being represented by 100°.

417. In the event of rain, packing will not be resumed till after the lapse of three full days (at least 72 hours) from the last fall of rain, other conditions of weather being favourable, so as to ensure the packing materials and all surroundings being perfectly dry.

418. Four scales will ordinarily be worked during packing, numbered from I to IV, each scale weighing 125 chests, during the day; and to the charge of every two scales the Factory Superintendent will appoint a separate Assistant. At each scale there will also be two cake examiners (either two permanent sirdars, or one permanent sirdar and one cake-maker), one packer, who will be a permanent sirdar, one weighman, and the requisite number of beldars and boys.

419. Before each day's packing begins, the Factory Accountant will see to the preparation of tickets for the number of chests to be packed on that day, by having written on them the date of packing and the packing weight for the day. The latter he will obtain from the "Register of packing weight," (*vide* Rule 385), which will be kept up in the office and initialled daily by the Factory Superintendent, as well as by the Assistant Factory Superintendent. Each ticket will also have impressed on it the scale number, the first scale taking the first 125 chests, the second scale the next 125, and so on.

420. During the packing season the head sirdar, who will be present for the general supervision of the preparations for the day's work, will cause the first bell to be rung an hour before that fixed for the commencement of packing, when the Assistants in charge of the cake godowns from which cakes are to be issued will have their cakes taken from out of their cups and arranged on a bed of trash in the verandahs (or on shady sides of the godowns) in "jettas" of 500 or 1,000, as may be most convenient. At the same time the malkhana sirdar will cause the trash which is to be used at the scales to be taken out from under cover and to be heaped up in the sun, or other convenient place opposite the scales, set apart for the purpose.

421. At 15 minutes before the hour fixed for the commencement of packing, the head sirdar will cause the second bell to be rung, when the cakes will be carried, "jetta" by "jetta," in barrows holding 20 cakes each, to the packing ground, where they will be laid out on a bed of trash behind the scales. At the same time the packers, weighmen, examiners, and coolies will all fall in to their places, ready for the work to begin. In having the cakes barrowed to the scales the Assistant Factory Superintendent will have a careful tally (Factory Form No. 59A) kept of the number of barrows which go from each godown, the tallymen taking note that each barrow, as it passes them, contains 20 cakes. This will serve as a check at the end of the day's work on the number of cakes issued and packed.

sent away to the packing room before the interval of a quarter of an hour is taken.

440. The Assistant in charge of a scale will satisfy himself that the chests, mats, and compartments being used at his scale are all dry and fit for packing, and that none are affected by "goon" or dry rot. He will see that the empty chests being brought up to his scale are not dragged along the ground so as to injure the dammering, but are lifted into position by two beldars. Compartment frames that have their divisions broken to such an extent as to cause two adjacent cakes to touch each other, or to injure a cake by their broken and sharp edges, should be rejected. He will also be careful to notice that the trash being used for the lower layer is neither damp, musty, heated, nor caked into lumps. Any article suspected of being damp or defective should at once be set aside, to be brought to the notice of the Factory Superintendent, or the Assistant Factory Superintendent, whichever officer happens to visit the scale first, and the Assistant in charge of the scale will make a note of the circumstance in his note-book.

441. The head sirdar will be present at the scales throughout the time packing is proceeding, and will keep a general control over the work of the cake examiners and other subordinates at the scales. He will also render the Assistants in charge of scales any aid that may be necessary.

442. The malkhana sirdar will be placed in direct supervision over the trash heaped up in the open yard, or such other place appointed for it, for the use of the scales, and he will satisfy himself that every basketful carried to the scales is free from sticks, and is neither damp, musty, nor heated; and that none of the trash has been caked into lumps.

443. At the close of the day's work at the scales, the scale Assistants will fill up the necessary forms (Factory Forms Nos. 77 and 78) showing full details of the work done at the scales, viz., number of chests packed, number of cakes rejected, and the names of the examiners, weighmen, and packers at the different scales. They will also sign the certificate (Factory Form No. 79) so far as it concerns them, entering the hour at which packing began and ended at their scales. One copy of Form No. 78, prepared in the office, will be submitted daily for the information of the Agent as to the progress of packing.

444. The Assistant in charge of the issuing godown which is to receive back the surplus cakes from the scales will, in company with the head sirdar and in the presence of the scale Assistants, count over the rejections at the scales, and also the sound surplus cakes, and will enter the number of these in the proper place in Form No. 79, which he will sign in token of having taken over charge of the surplus cakes. He will then have these cakes conveyed to the cake godown, where they will be put up on the racks again in cups, the rejections being put aside for subsequent repairs. He will then write up his godown register, entering number issued, number received back from the scales, and the net number of cakes remaining in the godown.

445. The Assistant Factory Superintendent will always be present at the scales at the close of work to check the surplus cakes and to satisfy himself that the number actually issued from the cake godowns

corresponds with the number packed, *plus* the number remaining at the scales; he will then write up his stock book of cakes showing the number packed and the balance remaining in the Factory.

SECTION VI.

Packing of upper layer of cakes.

446. For the packing of the upper layer of cakes the Factory Superintendent will appoint two Assistants who will have, between them, the supervision of the entire number of chests being packed during the day. These two packing Assistants will be assigned the numbers 1 and 2, and the number assigned to each will be published in the packing order in the Factory order book before work for the season begins, any subsequent changes being similarly notified.

447. For the packing of the upper layer, the two Assistants will be allowed between them 20 cake-makers for filling in, and two cake-makers for levelling off, the trash. With each Assistant there will also be one mate sirdar, or examiner of packing, to assist in the general supervision of the work.

448. As each chest is brought from the scales to the packing room, the Assistant and Examiner under whom it is to be packed will each run his eyes over the top layer and see—

- (a) that each division in the upper compartment frame contains a cake;
- (b) that each chest contains a ticket in one of the middle compartments;
- (c) that the upper compartment frame and all the twenty cakes are somewhat below the level of the top edge of the chest.

449. If all appears satisfactory the Assistant will drop into the compartment, which contains the scale ticket, a ticket bearing his number, as the packer responsible for the packing of the upper layer (Factory Form No. 80), and will allow the packing to proceed.

450. The upper layer of cakes will be packed in the same manner as the lower layer, except that no trash will be placed beneath the cakes which will be allowed to rest upon the mat. The cakes being tightly packed as directed in Rule 433 of the preceding section, a layer of trash will be spread over them and pressed firmly down with the palms of the men's hands. The trash will then be levelled off by a flat rule about one-fourth of an inch above the walls of the chest. The Assistant will now examine the packing of the chest with his finger tips, and if he finds it satisfactory, a lid, which has been passed for use, will be laid on the top of the trash ready to be nailed down, and the Assistant will chalk-mark it with his initials.

451. The points to be carefully noted by the Assistant in packing the upper layer, in addition to those enumerated in Rule 448, are—

- (a) that the trash has been well pressed round the cakes so as to firmly fix them in their places; to this end he will test with his fingers each chest before the lid is put on;

- (b) that the surplus trash is levelled off at the proper height above the walls of the chest;
- (c) that each lid, before it is placed on a packed chest, is to all appearances sound and fit for use, and not too small for the chest.

452. The Assistants packing the upper layer, and the two examining sirdars, should carefully and continually examine the trash which is being used for the packing, and should satisfy themselves that it is neither damp, musty nor heated, and that it is not oaked into lumps. They should also insist on the cake-makers filling the chests taking out all sticks that may have accidentally passed into the trash.

453. All chests will be packed in the order they are received from the scales, and the Assistants will be careful to see that the packers do not press heavily with the palms of their hands on the cakes, nor sit on the walls of the chests while packing. Any defect found in the trash, or unsoundness in the lids, should at once be brought to the notice of the Factory Superintendent, or of the Assistant Factory Superintendent, whichever officer happens to visit the packing room first, and the Assistant will make a note of the circumstance in his note-book.

454. As the top of each chest is levelled off with a flat rule, the excess trash which drops on the floor will be at once collected by boys, specially entertained, and the trash utilised in other chests. A large waste of trash from being mixed up with chips of wood and pitch, and trodden into dust, will thus be avoided.

455. When the scales stop at 1 p.m., an interval of a quarter of an hour will be allowed to the Assistants packing the upper layers, and at no other time, until the close of work, are these Assistants allowed to leave the packing room; nor should both Assistants leave the packing room at the same time. The intervals will be taken in succession from 1 to 1-15 p.m., and from 1-15 to 1-30 p.m., by the two Assistants respectively, and when one Assistant is absent the other Assistant will undertake the entire supervision of the work. The packing room will thus never be left without an Assistant.

456. The Assistants packing the upper layers will not leave the packing room at the close of work until two sides of the lid of each chest packed by them are nailed down. Before quitting the packing room each Assistant will sign the certificate (in Factory Form No. 79), noting the hour at which he quitted the packing room. The Assistants will also note on this certificate the names of the examining sirdars on duty with them during the day's work.

SECTION VII.

Nailing down of packed chests.

457. The Factory Superintendent will appoint one Assistant, whose duty will be to supervise the work of the carpenters in nailing down the entire number of chests packed daily. The chests will come under the supervision of this Assistant as the packing of the upper

layer of each chest is completed and a lid placed on the chest as described in Rule 450 of the preceding section.

458. Under this Assistant will be placed two permanent carpenters to supervise the work of the temporary men, and four sirdars, permanent or temporary, to assist him in examining the nailing down of the lid of each chest before it is finally passed.

459. The nailing down of the lids of packed chests will be done in this wise:—

- (a) the first set of carpenters will nail down the sides and ends of lids that are ready trimmed and bored ;
- (b) a second set, consisting of sawyers, will then saw off the projecting ends of the lids not nailed down ; and will also see, before passing on to the next chest, if there is any projection on the nailed end, which should likewise be sawn off ;
- (c) the end squared with the saw will now be bored, and a third set of carpenters will nail down this end ;
- (d) each chest as it has two ends and a side nailed down, will be turned over on its nailed side by two beldars, and one of a fourth set of carpenters will take off the superfluous wood from the remaining side (the grain running with the length of the chest) with a "basula." Should there be a knot to go through, or the wood be cross-grained, a saw and not a "basula" will be used to prevent damage to the lid ;
- (e) the chest will then be turned over again on its bottom, and the remaining side bored and nailed down by a fifth set of carpenters.

This will complete the nailing down of the lid of a packed chest.

460. To nail down the lid of a mango wood chest of three quarters of an inch planking, 8 three inch nails and 6 two and a half inch nails will ordinarily be used. The three inch nails should weigh about 115 to a seer and the 2½ inch nails about 184 to a seer. And the number required for each lid will ordinarily be four 3 inch nails for each end, and three 2½ inch nails for each side, making fourteen in all, not taking into account any extra nails that may be used for giving greater security to the lid where it is needed, or where the lid is made up of more than three pieces of planking.

461. As the nailing down of each lid is completed it will be examined carefully by one of the four sirdars, among whom the entire number of chests for the day will be distributed. The sirdar will mark in chalk all faults that have to be rectified, such as additional nails to be put in where needed, taking off projections where they exist, &c. All these defects that have been chalk-marked will be at once rectified by a special set of carpenters.

462. Of the two permanent carpenters, one will supervise the work of the first three sets of carpenters, the other the work of the fourth and fifth sets, as detailed above under the several heads of Rule 459 ; the second permanent carpenter will also supervise the work of the special set of carpenters mentioned in Rule 461.

463. The defects in nailing down having been rectified as directed in Rule 461, the Assistant will then personally examine each chest and satisfy himself that—

- (a) the lid is securely nailed down ;
- (b) the lid does not project at the sides and ends ;
- (c) there are no gaping cracks or joins ;
- (d) to all appearance the chest and lid are sound.

He will then affix his initials in chalk on the lid, and the chest will pass to the dammerers.

464. Should any lid, or part of a lid, after it is nailed down be found to be affected by dry rot or 'goon,' or to be so damaged as to be unfit to be left on the chest, the Assistant will have it removed, and another lid or part of a lid substituted in his presence, making a note of the occurrence and recording the number of the chest in his note-book.

465. Should a chest be found to be damaged during the nailing, the Assistant will at once draw the attention of the Assistant Factory Superintendent to it, and that officer will, if he thinks the damage slight, order the chest to be repaired ; or if he thinks it necessary, he will have the contents of the chest transferred to a new chest. The transferring of the contents of one chest into another, and its repacking will on no account be done except in the presence of the Assistant Factory Superintendent or the Factory Superintendent ; and the officer before whom it is done will record the number of the chest repacked in the register prescribed in Rule 424 among the chests examined during the day.

466. The Assistant will immediately bring to the notice of the Factory Superintendent or the Assistant Factory Superintendent any dampness or suspicion of dampness in either chests or lids ; or the fact of their having been less than three months in the Factory, which he will be careful to note from dates that may be visible on the chests and lids. When bringing to notice any of the circumstances noted in this rule he will record also the occurrence in his note-book, and take against it the initials of the officer to whom the report is made.

467. Before a lid is placed on a chest it will have the proper number of holes bored on the trimmed side and end. This work will be done by the carpenters on the previous evening after completion of the day's work, and before work begins in the morning. The object of this rule is to prevent cakes being pierced by 'burmas' when boring is carelessly done on the chests.

468. Every morning before work begins, the Assistant will examine the saws, basulas, hammers and burmas of all the carpenters, and will satisfy himself that they are fit for use, rejecting any that are not fit. Saws, burmas and hammers will be supplied by the Factory, the carpenters bringing their own basulas. The hammers used at the packing should weigh about $1\frac{1}{2}$ to $1\frac{3}{4}$ lbs. each.

469. Two boys, specially told off, will collect all the chips of wood resulting from the packing as the work proceeds, and will heap it up in a place set apart for the purpose. At the end of the day's work, the Assistant with the help of the Factory weighman,

will weigh the chips and will record the weight in a book kept for the purpose, which he will send to the storekeeper daily after completion of his weighment. The storekeeper, after bringing on his books the gross weight of the chips as wood fuel, will initial and return the weighment book to the Assistant, and will have the chips transferred to the Store Department.

470. When the day's work is completed, the Assistant will affix his signature in the proper place on the certificate (Factory Form No. 79), and will note on it the hour at which the nailing for the day was finished.

SECTION VIII.

Dammering, sewing gunny covers, and numbering.

471. The Factory Superintendent will appoint one Assistant, whose duty will be to supervise the dammering, the sewing of the gunny covers, and the numbering of packed chests.

472. He will be assisted in his duties—

- (a) in dammering, by four sirdars, one at least being a permanent sirdar;
- (b) in sewing of covers, by two sirdars, one of whom must be a permanent sirdar;
- (c) in numbering, by (1) two stampers, (2) two sirdars for checking numbers in English and Hindi, one of whom must be a permanent sirdar, and (3) two temporary sirdars as assistants to the latter for calling out the numbers on the chests.

473. After a chest has been initialled by the nailing Assistant as described in Rule 463 of the preceding section, it comes under the supervision of the dammering Assistant, who will send for the dammerers as soon as the nailing of the first 30 or 40 chests has been completed.

474. The arrangements for dammering, such as the issue of pitch and cloth, and the boiling of the pitch, will be made by the storekeeper, in accordance with orders laid down separately for his guidance. It will, however, be the duty of the Assistant in this section to see that the dammer brought to the packing room is quite hot, that no cold dammer is ever used, and that the cloth in strips of $3\frac{1}{2}$ and 2 inches wide is properly used, the narrow strips for the joins in the lids and for cracks, and the wide strips for the join of the lid and the chest.

475. The work of dammering will begin by two sets of beldars placing strips of cloth over the joins and cracks. One set, with narrow strips, will go ahead and cover over all joins and cracks on the lid, and they will be followed by a second set with broad strips, who will cover over the join of the lids and chests. The upper edge of the broad strips must always lie about an inch on the top surface of the lid, and the lower edge must overlap the join of the lid and chest by about an inch. The ends of the narrow strips, over joins in the lids, must always be inserted under the broad strips.

476. The dammerers will then follow and dammar over the strips of cloth, taking care not to move the cloth from its position over cracks and joins, and to lay the dammer on neatly and while still hot, over the surface of the cloth only, without smearing over the rest of the chest and obliterating numbers or other marks.

477. As a chest is dammered the end away from the dammerer will be examined all round by one of the sirdars, and any defects in the old or new dammering rectified; the chest will then be raised on that end by two beldars. Two of the other sirdars between whom the chests on the right and on the left of the room have been divided off, will follow and examine each chest all round, as it stands on its end, and will have all defects in the old and the new dammering similarly rectified.

478. The Assistant, with the permanent sirdar, will then follow and will examine each chest personally, and if it is found to be well dammered with no cracks or openings showing, and otherwise sound, he will mark his initials in chalk on the top end.

479. During his examination the Assistant will have at least five per cent. of the chests turned right over so as to examine the end on the ground, and to satisfy himself that the work of the first sirdar, as described in Rule 477 is being properly performed.

480. Any defects found by the sirdars in the chests themselves, such as the starting of lids or bottoms, or other damage to any part of the chest, will be marked in chalk for the inspection of the Assistant. If the damage is slight and easily repairable, the Assistant will have it repaired, otherwise he will bring the matter to the notice of the Assistant Factory Superintendent, who will direct the course to be followed. The number of every chest thus brought to notice as faulty will be taken down by the Assistant in his note-book, with a brief statement of the action taken, and after the necessary repairs have been done, or the contents transferred to another chest (by the Assistant Factory Superintendent), as the case may be, the chest will be re-examined, and initialled and passed in the usual way.

481. As each row of chests is initialled and passed by the Assistant, the 'telis' will take them up for sewing on gunny covers. Thus the 'telis' will always be behind the Assistant as he proceeds in his examination and, all risk of chests being sewn up without examination avoided. A chest that is not initialled will on no account be taken up by the 'telis.'

482. Before the packing season begins the Assistant Factory Superintendent will appoint the requisite number of 'telis' as far as possible from the past year's muster rolls, and will apportion to each the maximum number of chests he may sew according to the proficiency shown by him in previous years. The 'telis' will be paid for their work at a rate per 1,000 chests fixed by the Factory Superintendent, and the maximum number a 'teli' will be allowed to sew in a day will be 15 chests. On the completion of the sewing of 5,000 chests the 'telis' account for payment will be made out in Factory Form No. 80A. The muster roll of the telis, with the daily amount of work done by each, will be kept up by the Assistant in charge of this section, and will be submitted daily to the Assistant Factory Superintendent for his inspection and initials.

483. It is not permitted to sew the gunny pieces together, apart from the chest like a bag and then to slip this over the chest, but the gunny must be sewn on to the chest tightly, and in three separate pieces; first, the broad piece being sewn round the length of the chest, with the Agency inscription and the chest number on the lid, and the two narrow pieces on the sides being sewn on to this. The narrow piece, for the side of the chest bearing the number, should be left until the number has been stamped on the broad gunny piece on the lid. The sewing must always be along the edges of a chest, and not on the flat surfaces of the sides. Care must be taken, too, in fitting on gunny, that the pieces fit the chests, as both chests and gunny pieces are apt to vary somewhat in size. If a piece is found to be too narrow for a chest it should not be forced on to it, but should be set aside and tried on a chest of smaller dimensions.

484. A gunny covering to be strongly and properly sewn should have a stitch to every inch of running length. The minimum number of stitches allowed will be —

30	stitches in the length,
24	„ „ breadth,
12	„ „ depth,

provided the sewing is well and uniformly done.

485. No water-marked or damaged gunny will be issued by the storekeeper, and any found by the Assistant in charge of this section, during his examination of the sewing, should at once be brought to the notice of the Assistant Factory Superintendent who, after inspection, will give the necessary orders.

486. The Assistant will exercise general control over the sewing and the two sirdars, specially detailed for this work, will be in constant attendance, and will bring to notice any telis not doing their work as laid down in this section. The permanent sirdar will keep in Hindi the muster of telis, and the amount of work done daily by each man the register being a counterpart of the English book kept up by the Assistant, who will compare daily the two books, and enquire into and rectify at once any discrepancies, bringing such to the notice of the Assistant Factory Superintendent. The permanent sirdar will be held responsible that the chests sewn by each teli is at once recognisable by the distinctive mark of that teli, or by any other means, so that bad work can be brought home to the men.

487. As the telis sew on the broad pieces of gunny, the numbering sirdars and stampers will number the chests. One sirdar will call out the number shown on the side of the chest, a second sirdar will at once tick it off in the Hindi register, and the stamper will stamp the number on the gunny, taking care that the numbers are stamped in a uniform line. On no account is the number to be stamped on a gunny piece until it is actually sewn on the chest. All danger of the number on the chest not tallying with the number on the gunny to covering will thus be avoided.

488. At 10 A.M. on the morning after the packing when the sewing has been completed, the Assistant will tally the chests with the help of

printed tally-sheets (Factory Form No. 69), the permanent sirdar calling out the numbers on the chests, and chalk-marking each chest whose number has been called, and the Assistant running a coloured pencil through the number on the tally-sheet.

489. Daily at the close of work the Assistant under this section will sign the certificate (Factory Form No. 79) so far as it concerns him, noting the hour at which his examination of the dammering ended and the numbers of any damaged chests he may have set aside for repairs till next morning.

SECTION IX.

Despatch of chests from Factory.

490. On the morning fixed for a despatch, all transit arrangements having been previously made, the Factory Superintendent will personally give orders for the chests to be taken up. No chests will pass out of the packing room into wagons before sunrise, nor if it happens to be raining. In the event of its being necessary to suspend despatches, owing to unfavourable weather or other cause, the Factory Superintendent will give immediate intimation of the fact to the railway authorities, and also to the Board of Revenue and to the Opium Agent.

491. The necessary police guard to be indented for by the Factory Superintendent, prior to the beginning of despatches, will be—

- (a) One head-constable and eight constables to keep guard over the wagons while being loaded, and also day and night after they are sealed and locked awaiting despatch ;
- (b) Two head-constables and sixteen constables to accompany opium trains to the Jetties (Calcutta), each train with 2,000 chests carrying an escort of one head-constable and eight constables.

492. As each chest passes out of the packing room a permanent Factory Assistant, specially told off for the duty according to roster, will keep tally of its number by running a coloured pencil through that number shown on the printed tally sheets. He will be assisted in this duty by a permanent sirdar, who will call out the number of each chest as it passes the Assistant.

493. A clerk of the Factory Superintendent's office will be stationed a little distance further, and will take down the number of each chest, on a blank tally sheet, as it passes him, as a check on the permanent Assistant's tally. The clerk will also be assisted by a permanent sirdar for calling out the numbers of the chests as they pass.

494. The Assistant tallying the chests will weigh 5 per cent. of them, or 25 chests out of a daily despatch of 500. The chests to be weighed will be taken by him at random as they are passing out and

their weights will be recorded in a register (Factory Form No. 81), which will be submitted daily for the information of the Factory Superintendent.

495. One permanent Assistant, also according to roster published in Factory orders, will be present throughout the time wagons are being loaded. There will also be present during the loading of the wagons, an officer of the Factory guard, either the Inspector, Sub-Inspector or the Jamadar. The duties of supervision of the Assistant and of the officer of the guard do not cease until the wagons are locked, sealed and made over to the police guard, and a receipt obtained from the head-constable in charge.

496. Special attention will be paid by the Assistant superintending the loading of the wagons to the following points:—

- (a) that the wagons and their fastenings are in sound condition;
- (b) that the floors of the wagons are clean and dry;
- (c) that the chests are carefully handled during loading.

497. When the wagons containing the day's despatch have been loaded, the contents of each wagon will be carefully counted by the Assistant, the officer of the Factory guard, the head-constable of the police guard and the railway goods clerk. The wagons will then be sealed with the railway seal by the goods clerk in the presence of the above officials. They will also, at the same time, be locked and sealed with the Factory seal, by the Assistant, when the wagons in their secured condition will pass into the charge of the police guard. The head-constable of the guard will, in acknowledgment, grant a receipt (Factory Form No. 82) to the Assistant, which he will deposit in the office of the Factory Superintendent. The wagons will then be shunted out of the Factory inner enclosure and will remain under the police guard of one head-constable and eight constables in the outer enclosure. This guard will be held responsible for the number of loaded wagons and the condition of their locks and seals until relieved of their charge by the starting of the special train for Calcutta.

498. The Assistant supervising the loading of the wagons will submit daily to the Factory Superintendent a combined receipt and certificate (Factory Form No. 83), showing the number of chests loaded in each wagon, the hour at which the loading of the despatch began and ended, and such other noteworthy circumstances as may have come under his notice in connection with the despatch. This document will be signed by the railway goods clerk as his acknowledgment of the correct receipt of the number of chests loaded, and also by the Assistant and the officer of the Factory guard as responsible for the handing over of the chests.

499. When the last day's despatch, making up the full load of a special train, is completed, the total number of loaded wagons at the Factory siding will, in the presence of the loading Assistant and an officer of the Factory guard, be made over by the stationary police guard to the head-constable of the travelling guard which is to serve as an escort to the special train to Calcutta. The latter head-constable, in

taking over custody of the wagons, will count them and examine carefully their locks and seals, and if everything is satisfactory he will sign a receipt (Factory Form No. 84), which the Assistant will deposit in the Factory Superintendent's office. This receipt will also contain the names of the eight constables proceeding with the head-constable, each of whom will affix his signature opposite his name in the proper column.

500. During the transit of a special train of opium wagons from the Factory siding to the jetties (Calcutta); transhipment of the chests will take place at Mokameh Ghât station from the wagons of the Bengal and North-Western Railway to the wagons of the East Indian Railway. The control of this transhipment lies with the railway authorities, but in order to ensure that no damage is done to the chests in transhipping from one wagon to another, and also that the wagons are properly sealed and locked at Mokameh, the Factory Superintendent will depute annually a permanent Factory Assistant for duty at Mokameh. This Assistant will see that the chests are carefully handled, so that no injury is done them, that the police guard are on the alert during the transhipment, and that the wagons are locked with the Factory locks and sealed securely by the railway company, and also independently by himself with the Factory seal, after he and the head-constable have counted the chests in each wagon.

501. The Assistant at Mokameh will be assisted by a teli and a carpenter, the former to repair injuries to gunny covers, and the latter to repair petty damage to chests such as the starting of a lid or similar defect which may be apparent, and which could be done by the hammering in of a nail without removing the gunny covering, or undoing more than a few stitches if found necessary. The Assistant will submit to the Factory Superintendent, after each transhipment, a report (Factory Form No. 85) giving full details of the work superintended by him.

502. The head-constable on duty with an opium train proceeding to the Jetties will be held responsible that the locks and seals of every wagon are examined at each station at which the train stops. Should he, on arrival at any station have cause to think any of the locks or seals have been tampered with, immediate notice will be given by him to the guard and station-master. From the time of the starting of a train till the delivery of the despatch at the Jetties the head-constable will retain sole possession of the keys of the wagons.

503. Should any accident occur on the line, and one or more wagons have to be left behind, the head-constable will exercise his discretion in either remaining behind with two other constables with the wagons out off, or will detail at least three constables for this duty, making a report at once of the circumstance to the Intendant of the Opium Godowns at Calcutta. In either circumstance he will see that the keys of the wagons going ahead or left behind are with the constable he has placed in charge during his enforced absence.

504. On arrival at the Jetties, Calcutta, the head-constable in charge of a despatch will make over the wagons to the Carrying Agents to be unloaded, and will take from them a wagon receipt in Factory Form No. 86. After delivery of a despatch to the Intendant of the

Opium Godowns in Calcutta, the head-constable will take charge of the locks and keys of his train, and will obtain his receipt (Factory Form No. 87). He and the constables will then return by the first train to Ghazipur to be available for another despatch. On arrival at the Factory he will hand over the locks and keys to the officer of the Factory guard at the main gate, taking a receipt for them; and the Intendant's receipt for the chests delivered in Calcutta, together with the wagon receipt from the Carrying Agents, he will deposit with the Factory Accountant at the office. On every occasion when a train passes to the custody of a travelling guard at the Factory siding, the loading Assistant should ensure that the head-constable in charge understands the instructions laid down in this and the five preceding rules, and that he has a copy of these rules in Hindi which will be obtained from the office.

505. On the goods clerk of the railway company granting a receipt under Rule 493 of this section for the full number of chests loaded at the Factory siding, the Factory Superintendent is entitled to a railway receipt for the full despatch, as booked from Ghazipur to the Jetties, payment being made to the railway company by credit note at rates approved by the Board of Revenue. The Factory Superintendent will forward the railway receipts by the head-constable in charge of the despatch to the address of the Intendant, Presidency Godowns, Calcutta.

506. The Factory Superintendent will, at the same time on the departure of a special train, submit to the Agent, for transmission to the Board of Revenue, an invoice of chests despatched, showing the distinguishing marks and the gross weight of provision opium packed, and a certificate as to the quality, weight and manufacture of the provision (Factory Form No. 88).

CHAPTER VIII.

ABKARI OPIUM.

507. The opium that is manufactured for the excise requirements of local administrations in British India is known as abkari opium.

508. Before the new season's opium begins to come in, the Factory Superintendent will prepare a forecast of the coming year's requirements from the indents submitted through the Agent by the Board of Revenue or the Commissioners of Excise of the various administrations that take their opium from the Factory. Having arrived at the exact figure of the abkari requirements for the coming year, he will allow for any balance remaining on hand from the previous year's stock, and will add 10 per cent. as a margin for contingencies, and his issues from the opium of the new season will be based on these figures.

509. Abkari opium will be manufactured at 90° consistence (i.e., between 89°50' and 90°50'), and the opium set aside for it should ordinarily be as far as possible from that portion of the year's produce which is of too high a consistence to be expended without causing loss to Government in the manufacture of provision cakes. In seasons, however, when the consistence of the produce runs abnormally low, it may be necessary to set aside opium of the lower consistences so as to maintain the standard consistence for provision opium. Equal care, however, will be taken that only good opium, free from all impurities, is used for abkari as for provision purposes.

510. Opium for abkari use will be issued by the Assistant Factory Superintendent as it is required by the Assistant in charge of the Abkari Department, and up to the limit prescribed by the Factory Superintendent in the Factory order-book. The issues will be made in the same manner as in the case of opium exported for provision manufacture. While import and provision manufacture are in progress it will be necessary to set aside in a special vat the balance of abkari requirements for the remainder of the year in accordance with the condition of Rule 509.

511. The opium, on issue from the malkhana, will pass directly into the trays in custody of the Assistant in charge of the Abkari Department, who will be responsible for its manufacture and care until it is issued from the Factory in the form of abkari opium. The gross quantity exported and the calculated quantity at 70° and 90° consistence will be debited by the Assistant Factory Superintendent in his register of malkhana exports, and the gross quantity received and its calculated equivalent at 90° will be credited by the Abkari Assistant on the 'unmanufactured' side of his stock book of abkari opium (Factory Form No. 89).

512. The method of manufacturing abkari opium is as follows:—The opium will first be spread out on shallow wooden trays, each capable of holding about two maunds, and will there be thoroughly

searched by hand by coolies for foreign substances, such as fragments of pottery, &c. The trays will then be laid out, side by side, in an open yard exposed to the sun, where the opium will be frequently stirred with long wooden spatulas, and will gradually under this process part with its moisture. At night the trays will be locked up carefully by the Abkari Assistant. On damp or cloudy days the drying and exposure of the trays will be suspended.

513. Daily in the morning when the trays are laid out in the open the abkari sirdar will go round and examine them, and will pick out such as he thinks have reached the consistence of 90°. The Assistant in charge will examine these trays, and if he considers them to be of the desired consistence, he will have the contents transferred to caking trays and well amalgamated into blocks of about 5 to 6 inches in depth, called 'dhundias.' This will be done by the opium being scraped together from the different trays and kneaded into a homogeneous mass by the treading of coolies, whose feet and hands must be first lubricated with a small quantity of poppy oil, to prevent the opium sticking to them in the process of kneading and treading.

514. The next morning, in the presence of the Assistant Opium Examiner, one of the permanent Factory parkhias will take samples from the several caking trays by means of an iron scoop, penetrating to the bottom of the tray. From each caking tray three or four samples will be drawn, and the samples from every two caking trays will be mixed together with a wooden roller on a board. From the resulting mass one sample of about a chitak will be taken and numbered, the same number being chalked on the two caking trays. When all the samples have been taken, they will be sent to the laboratory in a box of which the Assistant Opium Examiner will have the key.

515. The assay of the abkari samples will be conducted in the same manner as the assay of opium, as laid down in section (iv), Chapter IV. The results, with the average of the three specimens from each sample, and the mean average of the various samples, which are declared to be within the limits assigned for 90° consistence, will be recorded in the Register of Abkari Assays (Factory Form No. 90) by the Assistant Opium Examiner, who will sign the register and forward it for the inspection and orders of the Factory Superintendent. The latter officer, if he sees that all conditions are fulfilled, will write on the register his order to the Abkari Assistant for the opium to be converted into abkari cakes.

516. The caking trays, passed by assay, will be stacked in the abkari room, and will be used for manufacture in the order in which they are passed, every process in the manufacture being conducted in the presence of the Assistant in charge until the chest is nailed down. The opium will first be cut up into small blocks, which will be brought to the exact weight of one seer each, *plus* an allowance of 30 grains, these blocks will then be shaped by a press into cubical cakes stamped with the Factory mark. The allowance of 30 grains per cake, or two chitaks in a chest containing a maund and-a-half represents the poppy oil taken up by the opium, in smearing the coolies' hands and feet and the press compartments so as to prevent opium adhering to them.

517. As the cakes leave the press, they will be test-weighed singly and adjusted, if necessary, and then passed on to a larger test scale. When there are 60 cakes—the allowance for each chest on the large test scale, they will be weighed against $1\frac{1}{2}$ maunds, *plus* two chitaks oil allowance, and if the weight is found to be correct, the 60 cakes will be passed on to a wooden bench, where each cake will be wrapped in two sheets of Nipal paper, the inner wrapper being smeared with poppy oil to prevent it adhering to the opium, the outer being tied round with string.

518. When the 60 cakes are wrapped up, they will again be put on the scale against a weight of $1\frac{1}{2}$ maunds, *plus* two chitaks for oil, *plus* a weight roughly equivalent to the weight of the paper and twine; and if this further test weightment is satisfactory, the cakes will be passed into a chest placed in front of the Assistant, bearing on its side the number of the chest in consecutive series, the season to which the opium belongs, and the date of packing. The cakes will be packed in two layers of 30 compartments each, a cake fitting exactly into each compartment. Before the cakes of the second layer are allowed to be put in, the Assistant should satisfy himself that each compartment of the lower layer holds a cake.

519. With the last cake of the upper layer the Assistant will place in the chest a ticket (Factory Form No. 91), signed by himself, and giving the number of the chest, the number and weight of the cakes, the date of packing, and the name of the Factory Superintendent. A fresh series of numbers will be commenced with each season's opium.

520. Each chest, after being securely nailed down (with $2\frac{1}{2}$ inch nails) in the presence of the Assistant, will be carried away to the verandah outside, where the lid will be trimmed and all the joints and cracks will be carefully covered over with cloth and dammered. After the chests are dammered the abkari sirdar will carefully examine them all round to see that everything is in order and will chalk-mark each chest; they will then be sewn up in gunny covering, numbered and stacked on wooden platforms well above ground. They will remain in charge of the Abkari Assistant until they are issued from the Factory.

521. During manufacture the Abkari Assistant will keep up his register of packed chests (Factory Form No. 92) by entering in it the date, the contents, the caking consistence and the number, in consecutive series, of each chest packed; and at the close of manufacture he will strike off from the 'unmanufactured' side of his stock-book of abkari the amount of opium at 96° represented by the number of chests and cakes manufactured, and will credit the latter on the 'manufactured' side of the stock-book.

522. Abkari issues will be made from the Factory on indents received from the Board of Revenue, or the Excise Commissioners of Local Administrations through the Opium Agent, before the 31st March in each year for the following financial year. This annual indent will be divided into instalments, quarterly if possible, so as to

* When half-seer cakes are being manufactured, the contents of each chest will be 120 cakes, in four layers, each layer consisting of 30 cakes.

ensure fresh supplies to districts. The Factory Superintendent will manufacture against these instalments, and will supply as the instalments fall due. As a further precaution against dryage after packing, only the number of chests required for a month's supply will be packed and stacked.

523. Before each month's supply an order for the issue will be sent by the Factory Superintendent to the Abkari Assistant in the abkari order-book (Factory Form No. 93) kept in the Factory Superintendent's office. The Assistant will then unstack the chests for issue in the order of their manufacture as shown by his register of packed chests, and will have their addresses marked on them. Before each chest is issued it will be weighed, and its gross weight, date of issue, and destination entered in the proper columns of this register; and from this register the Assistant will write up for each issue the invoice side of the advice of despatch (Factory Form No. 94), and after signing it will submit the advice to the Factory Superintendent's office, where arrangements will be made for the immediate despatch of the chests. The Assistant will then strike off from the 'manufactured' side of his stock-book of abkari the number of full chests and cakes issued, which will correspond with the number shown in the abkari order-book.

524. The Factory Superintendent will, on receipt of the railway receipt, and the advice of despatch from the Abkari Assistant, sign the latter and forward them both, together with a receipt in duplicate (Factory Form No. 95), to the indenting officer. The latter on receipt of the consignment will sign the receipt form in duplicate, and will return it to the Factory Superintendent.

525. On return of the receipts from the consignees, the duplicate copies will be retained for record in the Factory Superintendent's office, and the original will be submitted by the Factory Superintendent to the Agent with his monthly statement of abkari issued (Factory Form No. 96). The Agent will submit the original copies as vouchers in support of his statement of abkari issues submitted monthly with his cash account to the Accountant-General of Bengal.

526. The Factory Superintendent will also submit to the Agent at the close of each month, for submission to the Board of Revenue, a detailed statement of abkari manufacture and issue (Factory Form No. 97); and at the close of each quarter direct to the Excise Commissioners of the United Provinces, Central Provinces, Panjab and North-West Frontier, a statement of issues referring to their respective Provinces (Factory Form No. 98).

527. Before a new season's opium is exported for abkari purposes and not later than 31st March, the Factory Superintendent should invariably take stock of the 'unmanufactured' side of the abkari stock account by either having the entire quantity of opium in hand manufactured off if possible; or by estimating the quantity in the trays by weight and consistence. The result of stock-taking should be reported to the Agent, and sanction taken to having the account adjusted, if necessary.

528. In all operations connected with abkari manufacture where poppy oil is used, the special attention of the Assistant in charge is drawn to the necessity of avoiding the accumulation of chips of

wood, twine, rags, paper or other combustible material smeared with the oil. All such accumulations are strictly prohibited, as they are liable to induce spontaneous combustion, and the Assistant, before closing up his department for the day, is directed to inspect all his rooms and satisfy himself that they are kept clean, and that all chips of wood and refuse have been disposed of.

529. The foreign substances found in the opium, *vide* Rule 512 of this Chapter, will be collected by the searchers in small wooden or metal trays, which will be made over to a second set of men, who will carefully scrape off as much of the adhering opium as can be done without abrading the surface of the pottery, &c. This opium will then be put into one of the larger trays, and the foreign substances will be washed carefully in water until all trace of adhering opium has been removed; they will then be collected and destroyed under the orders of the Factory Superintendent. The washings will be collected in glazed earthenware tagars, and will be evaporated until the consistence of about 70° is reached, when they will be assayed, weighed and transferred by order of the Factory Superintendent after inspection to the 'thick dhoi' account and removed to the lewakhana, appropriate debit and credit entries being made in the books of the Abkari and Lewa Departments. Should the "dhoi" thus prepared not be considered suitable for use in the preparation of lewa it will be transferred to the Laboratory for use in the extraction of alkaloids.

CHAPTER IX.

CONTRABAND OPIUM AND ALKALOIDS.

SECTION I.

Contraband Opium.

530. Contraband opium received at the Factory is illicit opium, confiscated by order of a Magistrate, and declared by the Civil Surgeon of the district in which it is found to be 'fit for use,' i.e., to have a marketable value.

531. When opium is confiscated by a Magistrate and is declared by the Civil Surgeon to be fit for use, it is sealed up and forwarded by the Magistrate to the Opium Examiner. The forwarding docket which will be the duplicate marked B (Appendix A, Form No. 1) will give the weight of the parcel and its contents, the case in which the opium was confiscated, the number of the seals on the parcel and a *facsimile* of the seal. The label on the parcel will be the triplicate of the form marked C, and besides containing the address will give the number of the parcel, the district from which it is despatched and the date of despatch, for ready identification with the forwarding docket. The parcel, unless it is too large, will be forwarded by registered post.

532. The provinces from which contraband opium is sent to the Ghazipur Factory for disposal are the United Provinces of Agra and Oudh, the Central Provinces, Panjab, North-West Frontier, Bombay and Rajputana.

533. Contraband parcels will be received in the Factory Superintendent's office, and if everything appears in order, the Factory Accountant will have columns 1 to 8 of the contraband register (Factory Form No. 99) filled in, and the register with the parcels and the forwarding dockets sent to the Assistant Opium Examiner at the laboratory.

534. The Assistant Opium Examiner will examine the condition of each parcel carefully, will weigh it, remove its cover and ascertain accurately the weight of its contents, filling in column 9 to 11 of the contraband register. He will then have a decoction made from a small portion of the contents of each parcel for the necessary examination.

535. The opium will then be tested by the Opium Examiner in the manner laid down for suspected opium in Chapter IV, section V. The consistence will first be entered in column 12, being determined at the discretion of the Examiner either by hand parakh or assay. If the opium be of marketable value, even though it be unfit for Factory (jewar or abkari) use the word "marketable" should be entered in the remark column; if it has no marketable value by being devoid of the

chief constituents of opium, the remark "not marketable" should be entered in the remark column. The Examiner will then assign the opium to its particular use at his discretion by entering its weight in columns 14, 15 or 16 according as he thinks it fit for abkari, lewa or the extraction of alkaloids, and if the opium be not quite pure he will note the cause of impurity in column 18, and initial the results of each examination, entering at the same time with his initials the consistence and the use to which the contents are assigned on the vessel containing the contents of a parcel.

536. The Assistant Opium Examiner will then remove to the deposit room such parcels as have been declared to be unfit for Factory use, and there they will remain for at least three months before being brought into use for the extraction of alkaloids in case of any further reference concerning them. The total weight of these parcels he will enter in column 10 of his stock-book of confiscated opium, &c., entering his initials against these parcels in column 19 of the contraband register in token of his having taken charge of them.

537. The parcels set aside for abkari and lewa will be sent by the Assistant Opium Examiner, under safe custody, to the Assistants in charge of those departments with the contraband register. The Assistants will receive the quantities shown in the columns affecting them, noting the consistences at which the parcels are passed, and will sign in column 19 of the register against each parcel as an acknowledgment and return the register to the Assistant Opium Examiner. They will then enter in the proper columns of their respective stock-books the quantities received, and the calculated quantities at 90° and 52·50° respectively.

538. The examination having been completed and the opium disposed of, the Assistant Opium Examiner will return the contraband register to the Factory Superintendent's office with the forwarding dockets, and the Factory Accountant will then have the necessary entries in column 13 filled up, and will prepare and submit, for the Opium Examiner's signature for issue, replies embodying the results of examination to the despatching officers (Factory Form No. 100 or 101, as the case may be) for each parcel of contraband opium received, entering the number and date of these replies in columns 20 and 21 of the register of contraband opium.

539. It frequently happens that parcels of contraband opium are sent to the Opium Examiner by District Magistrates for an expression of his opinion whether they consist of crude opium or opium which has been issued from the Government Factories. In such cases the parcel will be sent to the laboratory as directed in Rule 533, the remark being added by the office in the contraband register that the parcel is "for examination and report only." The Opium Examiner will, in such cases, record the full result of his examination in column 18 of the register, a copy of which will be communicated to the despatching officer, the parcel being, at the same time, returned to him under a sealed and registered cover. As the Opium Examiner is afterwards liable to have his evidence taken by Commission on such cases, it is necessary that the seals of the parcels should be broken in his presence, and the examination undertaken immediately the parcel is opened.

SECTION II.

The manufacture of alkaloids and their disposal.

540. The Factory Superintendent is personally responsible for the quality of the alkaloids and their salts manufactured at the Factory. He will be assisted by the Assistant Opium Examiner, who will be a qualified chemist and in immediate charge, under the orders of the Factory Superintendent, of the processes of manufacture.

541. Alkaloids will be extracted from the accumulations at both Factories of—

- (a) dhoi received from District Officers;
- (b) confiscated opium, *i.e.*, all opium sent in by District Officers, which on examination is found to be adulterated to such an extent as to be unfit for lewa;
- (c) burnt opium when found to be unfit for lewa;
- (d) contraband opium when found to be unfit for Factory use.

542. All the above descriptions of opium will be shown separately in the several columns of the stock-book of confiscated opium, &c, kept up by the Assistant Opium Examiner. District dhoi will be issued for the extraction of alkaloids as it is required; the rest of the material will only be issued after the expiry of the period prescribed for holding them in deposit, confiscated opium being only utilised after the formal sanction of the Agent has been obtained under Rule 211, section V, Chapter IV. All issues will be shown by the Assistant Opium Examiner in column 13 of his stock-book. Opium held in deposit for analysis will be shown in a register specially kept for the purpose (Factory Form No. 102).

543. The alkaloids at present extracted are morphia and codeia. These and their several salts will be prepared primarily to meet the demands of the Indian Medical Department, the surplus being sold under the orders of Government.

544. As each parcel has reached its final stage of preparation, it will be tested in accordance with the most recent scientific processes to ensure its being up to the standard of the British Pharmacopœia. If the tests are satisfactory the parcel will be accurately weighed by the Assistant Opium Examiner, brought on to his stock-book of alkaloids, (same as the form for laboratory stores), put into earthenware jars or glass bottles closely corked, and stored away until required for issue. The mouths of the jars or bottles should be immersed in bottling wax to prevent deterioration by access of air or moisture.

545. Alkaloids and their salts required for the use of the Medical Store Departments of the Government in India will be issued on indents submitted by the Director-General of the Medical Department or by the Surgeons-General, Madras and Bombay, through the Board of Revenue.

546. Surplus stock of alkaloids and their salts may be disposed of to district dispensaries on the requisition of Civil Surgeons or to recognised chemists or private dispensaries in India, at rates sanctioned by Government. The Factory Superintendent is empowered to meet

such direct indents on payment. When the value of such indents does not exceed Rs. 25, and payment has not been made in advance, the parcels should be sent under the value payable system. In all other cases of sale of surplus stock, the sanction of Government is necessary. A register of all sales of alkaloids will be kept up in the Factory Superintendent's office in Factory Form No. 103.

547. In all cases of issue of alkaloids and their salts, the Factory Superintendent will issue an order in the Factory order book, which will be the authority for the Assistant Opium Examiner to pack up securely, and to make over the packed parcel to the Factory Superintendent's office for despatch. The Assistant Examiner will at the same time write off the quantities issued from his stock book.

548. When alkaloids and their salts are issued to any Government medical stores, the value will be adjusted inter-departmentally in the manner laid down in Rule 95, Chapter VI of the Civil Account Code, 6th Edition, Volume I.

In the Agent's office the value of the issues will be shown in the list of payments by a corresponding credit in the monthly cash account. The entry in the list of payments will be supported by the invoice receipted by the receiving officer, and the necessary adjustments will be made by the Accountant-General, Bengal. When supplies are made to dispensaries or parties, through Civil Surgeons or otherwise, for cash payment, the value of the alkaloids supplied will, on realisation, be credited in the cash account with full particulars.

CHAPTER X.

STORES.

SECTION I.

General stores.

549. All stores received at the Factory, excepting earthen* cups, jars, &c., will pass through the books of the Store Department, which will be in charge of the storekeeper, who will be held responsible for the stores which are entrusted to his care. A record of all packages received at or despatched from the Factory will be kept up in special registers (Factory Forms Nos. 104 and 105).

550. Stores of European manufacture will be obtained by the Factory Superintendent on indent on the Secretary of State for India, submitted annually through the Opium Agent and the Board of Revenue. In framing the indent, the Factory Superintendent will be guided strictly by the orders of the Government of India conveyed in their No. 185, dated 10th January 1883, and connected correspondence. But any article of European manufacture, not exceeding Rs. 50 in value, which may be required urgently, can be purchased from the open market.

551. Stores of local manufacture, or consisting of bazar produce, will be obtained by local contract and, when the stores are in large quantities, or when the supplies extend over a lengthened period, tenders should be publicly invited and contracts entered into by the Factory Superintendent with the approval and sanction of the Opium Agent.

552. Stores of Indian manufacture will be obtained from the open market or from Government Factories.

553. All transactions affecting the purchase of stores must be undertaken with the written authority of the Factory Superintendent on indent or otherwise. Stores obtained from local contractors should be indented for in Factory Form No. 106.

554. The Factory Superintendent is authorised to incur all necessary and ordinary expenditure in connection with the purchase of stores under Rules 551 and 552, for items of one description which do not exceed the value of Rs. 100. Purchases of an unusual or extraordinary nature, or of articles of a necessary or ordinary nature which exceed the value of Rs. 100 for any single description, will only be made with the previous sanction of the Opium Agent. In connection with purchases under Rule 550, the limit of Rs. 50 and the condition of urgency will be carefully observed.

* These will be in charge of the Assistant who has charge of leaf and trash.

555. At the close of each month a statement (Factory Form No. 107) will be submitted to the Opium Agent giving in detail the articles purchased by the Factory Superintendent under Rule 554.

It is not necessary to include, in the statement, articles obtained from Government Factories or Jails, as indents for these must in the first instance be submitted through the Opium Agent.

556. Chemicals, stores and apparatus for the laboratory will be received by the storekeeper, and the original packages will be sent by him to the Assistant Opium Examiner with the register of stores transferred to laboratory (Factory Form No. 108) after filling up columns 1 to 6 of this register from the invoice received. The Assistant Opium Examiner will have the cases opened in his presence, and will personally examine the articles received and fill up the remaining columns of the register, which will be returned to the store-keeper as his acquittance for the due delivery of the articles to the laboratory. The Assistant Opium Examiner will at the same time take a copy of the entries in the register of stores transferred to the laboratory in a duplicate book kept by him, and will credit the articles received on the proper page of the laboratory stock ledger (same Form as the store ledger).

557. In the case of stores received from local contractors, the store-keeper will, after personal check by counting or weighing, issue a receipt (Factory Form No. 109) to the contractors after countersignature by the Factory Superintendent. This receipt will be kept up in counterfoil and will be used as a voucher to support the bills of the local contractors. All other stores received by the storekeeper will be weighed or counted and checked by him, personally, with the invoice or indent, as the case may be, and then credited in the day-book of stores received (Factory Form No. 110), such credit being supported by the indents, invoices or receipts duly attested by the store-keeper in token of the articles having been received. Articles of European manufacture or other valuable stores will, on receipt, be inspected by the Factory Superintendent. Each description of stores will then be credited on its proper page in the store ledger (Factory Form No. 111). Articles manufactured in the Factory workshops will be similarly brought on the store books.

558. All stores required for Factory use will be issued on indent (Factory Form No. 112) which will be submitted by the officer requiring the articles and passed by the Factory Superintendent. In departments under the Assistant Factory Superintendent, indents will be submitted through that officer to the Factory Superintendent. Stores thus issued will be at once entered in the "day book of stores issued" (Factory Form No. 113), and the entries will be supported by the indents duly endorsed by the officers receiving the articles. On the close of the day the entries made in the day book of stores issued will be transferred to the store ledger in the same manner as laid down in Rule 557 for stores received. With regard to issues from the laboratory, entries will be made direct in the store ledger, indent signed by the Factory Superintendent being filed in support of issues.

559. District Officers requiring weightment or chemical stores will submit indents in duplicate (Miscellaneous Forms Nos. 84 and 85) to the Factory Superintendent so as to reach him not later than the 1st

October in each year. The Factory Superintendent will check these indents with special reference to the quantity of each article already in stock in the district and to the reasons for fresh supplies being required. He will pass the indents where he is satisfied as to the necessity for the issue of the articles, and will direct the return to the Factory of such articles as are declared to be unserviceable. When satisfactory reasons do not exist for the issue of any items in the indents, he will bring the matter before the Opium Agent for orders. All articles issued by the Factory to District Officers will be stamped with the date of issue, and will be forwarded under invoices (Factory Form No. 114) which will be signed by the District Officers, on receipt of the consignments, and returned to the Factory Superintendent. In the case of iron wagon padlocks, issues to District Officers will be forwarded under invoice (Factory Form No. 115). Receipts for iron wagon padlocks will be granted by the store-keeper in Factory Form No. 116.

All articles supplied on payment from the Factory will be billed for in Factory Form No. 117.

560. District Officers indenting for Chubb's padlocks must certify that they are required for treasure purposes only. When issuing these locks their numbers will be carefully recorded in a register (Factory Form No. 118), and the duplicate keys ticketed and deposited in a safe, the key of which will be in the custody of the Factory Superintendent, who is personally responsible both for the keeping up of the register and the safe custody of the duplicate keys.

561. Articles of dead stock which are temporarily required for manufacturing or other Factory operations, for periods not exceeding three months, should be indented for separately. They will not be shown in the day book of issues or struck off the store ledger, but will be entered in a loan book (Factory Form No. 119) each day's entries in the loan book being initialled by the store-keeper and the Factory Superintendent. When such articles are no longer required they should be returned to the Store Department by the Assistant who has had charge of them, accompanied by a chalan (Factory Form No. 120), which will be submitted for countersignature by the Factory Superintendent. In departments under the charge of the Assistant Factory Superintendent, such chalans will be submitted through that officer.

562. The store-keeper will examine the articles, compare the numbers with those in the original indent, and note in the remark column of the loan book whether the articles have been correctly returned or whether there are any discrepancies or damage. The loan book will then be placed before the Factory Superintendent for his initials in case of correctness, or order regarding the discrepancies or damage.

563. The Factory Accountant will on all such occasions check all items in the loan book with corresponding items in the chalan books of the various departments, and will initial each item in token of its having been duly returned into store. For articles obtained on indent and returned into store, the chalan books will be similarly checked with the corresponding entries in the store ledger.

564. The day books and the store ledger will be kept up by one of the clerks of the Factory Superintendent's office, and the storekeeper will daily check each item of receipt or issue with the corresponding

invoices or indents, and compare the entries in the ledger with those in the day books. He will also check the balances of each item in the ledger and will initial every item of receipt or issue in all three books.

565. The store-keeper is personally responsible that all weights, and scales in use at the Factory are in a proper state of adjustment.

566. To ensure the accuracy of these articles the Factory Superintendent will, once a year, before the commencement of opium weighing, examine them carefully and satisfy himself that they are all accurate and true. He will check at least 20 per cent. of the weights to be brought into use, by taking them at random and comparing them with one of the sets of test weights kept under lock and key. The results of this test weighing and examination will be reported to the Opium Agent. The Opium Agent will make a similar examination under the provisions of section 15, Act XIII of 1857, reporting the result to the Board of Revenue.

567. The Factory Superintendent will periodically, and as often as his other duties permit, inspect the store books and check certain items which he will select at random. The check should be thorough and to the extent of actual verification of the balance of the articles selected with the balance shown in the store ledger, a note being made of the result in the remarks column of the ledger.

568. On the day following the issue or receipt of stores and their entries in their respective books, by the storekeeper and his clerk, the Factory Accountant, assisted by a clerk, will check the entire day's transactions in the manner prescribed in the next two rules.

569. Issues :—

- (i) Examine indents for authority of Factory Superintendent ;
- (ii) Examine indents for acquittance of indenting officer to stores having been actually received ;
- (iii) Check indents with corresponding entries in day book of stores issued ;
- (iv) Cancel indent with date stamp ;
- (v) Check entries in day book with corresponding entries in the store ledger ;
- (vi) Check adjustments under Rules 573 and 574 with Agent's authority ;
- (vii) Check opening and closing balance in store ledger ;
- (viii) Initial the day book and store ledger entries in token of thorough check as above.

570. Receipts :—

- (i) See that each entry in day book of stores received is supported by authority of Factory Superintendent directing purchase or receipt ;
- (ii) Note, if purchase is beyond powers of Factory Superintendent, whether proper sanction has been obtained ;
- (iii) Check each item of purchase or receipt in day book with invoice of supplier ; and each item manufactured in workshops with workshops register ;

- (iv) If articles have been received from a local contractor, check with indent on contractor signed by Factory Superintendent;
- (v) Check each item in day book with corresponding item of receipt in store ledger;
- (vi) Cancel indent for receipts or invoice with date stamp;
- (vii) Check adjustments under Rule 573 with Agent's authority;
- (viii) Check opening and closing balance in store ledger;
- (ix) Initial the day book and store ledger entries in token of thorough check as above.

571. A similar check will be exercised by the Factory Accountant over the store ledger of the laboratory with the following differences. As no day book will be kept up by the Assistant Opium Examiner, in connection with the issues, the store ledger will be checked directly with indents: with regard to receipts the laboratory store register kept by the store-keeper is to take the place of the day book of stores received.

572. All discrepancies or objections found by the Factory Accountant during the day's check will be embodied in an objection statement (Factory Form No. 121), which will be submitted for the orders of the Factory Superintendent as to the action to be taken. Any irregularities should receive the personal attention of the Factory Superintendent. The objection statements with orders on them will subsequently be returned to the Factory Accountant to be filed in his office for record.

573. The stock of stores will be verified before the 31st of March in each year, by an Assistant appointed by the Opium Agent. A detailed statement of stores as verified (Factory Form No. 122) will be submitted to the Agent by the Factory Superintendent, with a report explaining any increase or decrease as compared with the book balance, and the discrepancies will be adjusted in the manner directed by the Agent.

574. Useless articles borne on the store ledger, or articles found to be unserviceable after the annual verification, will be set aside for the inspection of the Factory Superintendent who, after satisfying himself as to their unfitness for use, will submit a list to the Agent, for orders to dispose of such articles by public auction or otherwise, and to adjust the book.

575. *Public auctions of unserviceable articles of the Store Department, and also of such useless articles as are not borne on the store books, will be held periodically as the Factory Superintendent may direct. These sales will be conducted by the storekeeper personally.

576. The day before the sale is held, the storekeeper will have the articles laid out in convenient lots, serially numbered, for the inspection of the Factory Superintendent. A list in serial order will also be made in the auction sale sheet (Factory Form No. 123) to which the initials of the Factory Superintendent should be taken as authority for the disposal of the articles.

* These rules regarding auction sales apply also to the Assistant in charge of leaf and trash, on whom devolves the duty of conducting sales of baskets, straw, choor of leaf, etc.

577. Each lot will be sold to the highest bidder and the storekeeper will immediately enter against the lot in the auction sale sheet, in coloured pencil, the name of the purchaser and the price realised, and initial the entry. At the completion of the sale the storekeeper will at once strike a total of the sum realised, and will submit the auction sale sheet to the Factory Accountant who will strike the total independently and, if correct, will enter it in the abstract of auction sales (Factory Form No. 124), and will return the auction sale sheet, duly attested, to the storekeeper for recovery of the sale money from the purchasers.

578. The storekeeper is personally responsible that all money due from auction sales is fully collected. He is not authorised to permit lots to be taken away by purchasers until the full price for them has been realised. If the price of any lot has not been realised within a week, the lot will be resold, care being taken that the purchaser who has refused to take delivery is not permitted to bid again at future sales.

579. Lots will only be removed from the Factory on special passes issued by the storekeeper and countersigned by the Factory Superintendent (Factory Form No. 125). These special passes will be collected by the officer on duty at the gate and daily made over to the Factory Accountant for use in checking the sale sheets, and for record in the office.

580. The storekeeper will grant a receipt (Factory Form No. 125) to each purchaser on his paying in the price of lots purchased. On realisation of the entire proceeds of a sale the storekeeper will, after deducting 5 per cent. as a commission on the total sale proceeds, deposit the balance with the Factory Accountant, taking his receipt on the auction sale list.

581. The Factory Accountant will at once forward the money to the Treasury under a chalan (Factory Form No. 126), and the Treasurer will credit the amount in the cash book. The Factory Superintendent, before signing the cash book, will compare the entry in it with the entry in the chalan and will initial the latter. The chalan will then be compared in the office with the corresponding entry in the abstract of auction sales, and the latter will also be initialised by the Factory Superintendent in token of the completion of the transaction.

582. A statement (Accountant-General, Bengal's Form No. 23) of receipts on account of sale of old stores and materials will be submitted to the Opium Agent with the monthly cash accounts.

583. Besides those enjoined in the above rules, the following returns in connection with stores will be submitted to the Opium Agent by the Factory Superintendent :—

- (i) Estimate of probable requirements of European stores for the next financial year (Form No. 2, Appendix B), to be submitted on 15th June.
- (ii) Indent for European stores (Form No. 3, Appendix C) for the next financial year, to be submitted on 1st November ;

- (iii) Annual statement (Form No. 4, Appendix D) of expenditure on stores of European manufacture, to be submitted after the close of the financial year;
- (iv) Annual plus and minus memorandum of dead stock (Factory Form No. 127) to be submitted after the close of the financial year;
- (v) Stock book of dead stock (Accountant-General, Bengal's Form No. 158) to be submitted every fifth year (31st March 1906, 1911, etc).

584. The books of the Store Department will be periodically examined by the Opium Agent, or by an Accountant specially deputed by him to ensure that the accounts are being kept in strict accordance with the rules herein laid down. This check may be limited to articles selected at random, but it should be thorough, and should affect all details connected with them, viz., receipts, issues, authority for purchase, etc.

SECTION II.

Receipt and issue of cups.

585. The receipt and issue of cups will always be under the control of a permanent Factory Assistant selected by the Factory Superintendent. It has been found convenient to place the cup department under the Assistant in charge of leaf and trash, the godowns of the three departments being contiguous, for purpose of control. The Assistant will have a permanent sirdar to assist him in his duties.

586. Early in March the Assistant in charge of the cup department will submit to the Factory Superintendent his indent for cups for the twelve months beginning the 1st April following. The indent will be framed after due allowance has been made for new cups on the books, and the cups saved after packing of the current year's provision. The coming season's manufacture will be taken as the basis for the indent, and two cups will be allowed to each cake to be manufactured, with a margin of 25 per cent. for contingencies, and as a reserve to be carried forward to the following year.

587. A permanent list of cup contractors will be maintained at the Factory, and no change in this list will be made except with the authority of the Factory Superintendent. Before the contracts for a new season's supply are given out, the Assistant in charge will submit a list of cup contractors of the past season with his recommendations for revising the list, if necessary, by striking out men whose supplies have not been satisfactory and introducing new men. After careful scrutiny of the list, the Factory Superintendent will pass his orders for the new contracts, and the names of the contractors and the amount of each contract will be published in Factory orders, not later than the 1st April, so as to allow the best months of the dry season to be utilized by the contractors in the manufacture of their

cups. The usual practice is to give out only 50 per cent. of the contracts in the first instance, the remaining 50 per cent. being given later on in instalments, as contracts are completed, to those contractors who turn out the best work at the quickest rate.

588. In the Store Department will be kept for comparison and check a brass pattern cup and a pattern wooden measure, fitting perfectly the inside of the brass pattern cup. Three *facsimiles* of this wooden measure will be supplied for use in the cup department, and to each contractor will be supplied from the cup department one *facsimile* of this measure as a guide to him of the exact requirements of the Factory with regard to the internal shape and size of cups.

589. Each year before the season's first contracts are given out, the Assistant in charge will call in from the contractors all their wooden measures, and he will return these, as well as the three in use in the Cup Department, into store through the Factory Superintendent. The storekeeper will personally fit each measure into the brass pattern cup to see if the measure is accurate. Any that are worn down by constant use or have lost their shape will be broken up and replaced by new ones, and the newly tested and renewed batch of measures will be returned to the Assistant in charge of the cup department for use in his Department, and for distribution to the contractors, the store-keeper reporting the circumstance in his memorandum book for the information of the Factory Superintendent.

590. All the accounts of the cup department, such as the writing up of daily receipts and issues in the stock book, the granting of receipts to contractors, and the making out of contractors' bills will be done in English and personally by the Assistant in charge. The books and forms to be kept up will be —

Stock-book of cups (Factory Form No. 128.)

Cup contractor's ledger (Factory Form No. 129.)

Receipts to contractors (Factory Form No. 130.)

Register of old cups returned from cake godowns (Factory Form No. 131).

591. The receipt of cups on new contracts should begin soon after the heavy rains have ceased, that is, about the beginning or middle of September, and the contracts should be completed by the end of March before the import and manufacturing season begins. Cups tendered for acceptance by contractors will be stacked by them in fine weather just outside the cup godowns, and in wet weather in an empty shed near the godowns. Here they will be parakhed by the cup parkhias under the supervision of the cup department sirdar.

592. In parakhing cups the following points will be observed : —

- (a) that they are properly baked ;
- (b) that they are not broken or cracked ;
- (c) that the measure fits each one perfectly.

All cups that have passed the above tests will be stacked by the parkhias in stacks of ten, the stacks being in rows, so that they can be easily counted. Cups regarding which there are any doubts will be set aside for the inspection of the Assistant in charge.

593. When the cups tendered for acceptance have all been parakhed, the Assistant in charge will check the work of the parakhias by first examining the doubtful cups and passing such as appear to him not so objectionable as to render rejection necessary. The rest that are in his opinion unfit to be passed will be broken up in his presence, unless the contractor desires to refer them to the Factory Superintendent for his orders. The Assistant will then proceed to examine at least one stack in every ten taken at random from the cups passed as good by the parkhias. As the whole of one contractor's cups are thus examined, the Assistant will have each stack marked in his presence from the top to the bottom with a stripe of black paint which cannot be rubbed out fraudulently, so that each cup of the stack will retain on its side a black mark about an inch in width and about half an inch in depth, as a token that it is the property of the Factory. If due care be taken in the examination, no cup can be tendered a second time for acceptance.

594. The stacks will then be counted, and the number of cups entered in the ledger against the contractor's name, a receipt in English in proper form for the number accepted being given to the contractor. At the end of the day's examination the total receipts will be entered in the stock book and passed into the receiving godown.

595. Contractors' accounts will be submitted, by the Assistant in charge in Factory Form No. 132, to the Factory Superintendent within the first week of a new month, and will include all cups received from the first to the last day of the month preceding, payment being calculated at the rate of 300 cups for the rupee. The examination and receipt of cups should be stopped after the last day of a month and until the bill for that month is submitted.

596. The bills of the contractors will be supported by the receipts held by them, and will be checked by the Factory Accountant with the entries in the cup contractors' ledger as well as the receipts. He will then cause the preparation of a contingent bill which will be submitted for the Factory Superintendent's signature for payment at the treasury. As each contractor receives payment he will be required to sign a receipt (Factory Form No. 132) for the amount paid to him.

597. Cups will only be issued from the Cup Department on indents (Factory Form No. 133) which have been duly signed by the indenting officer and the Assistant Factory Superintendent, and countersigned by the Factory Superintendent. The issue of cups on loan or against future indents, or under any other pretext whatever, is strictly prohibited.

598. The maximum authorised scale for the indenting of cups is as follows:—For manufacture, 10 per cent. in excess of the number of cakes to be manufactured; for sattai, 25 per cent. on the number of cakes to be sattaiied; for turning in cake godowns, 350 cups daily to every lakh of cakes in the godown when a fourth of the number of cakes in a godown are turned daily. Every endeavour should be made to reduce breakage, and thus to correspondingly reduce the above scale, which is given only as an extreme limit.

599. Cups for manufacture and sattaï, as for cake godowns, will be indented for in the cup indent register on the day previous to that on which they are to be used, the indent being made out by the Assistant in charge of the operations or godowns, within the limits of the authorised scale. Exceptional indents outside this scale will require full explanation before the Factory Superintendent sanctions it. This indent, with the countersignature of the Factory Superintendent, will be presented at the cup godowns by the sirdars of the indenting departments about 1 P.M., the hour at which the cup department will issue daily. The cup department sirdar, who has his cups ready ranged in stacks of ten, will make over to each sirdar the number shown on his indent. When all the cups are thus counted over, the Assistant in charge will check the issues and make the necessary entries in his books, and the sirdars of the respective Departments will then transfer their cups into barrows exactly 50 cups going into each barrow, and will have the barrows carried away.

600. The indent register will then be returned for initial, by the indenting Assistant, in column 13, in token of the number of cups shown on the indent having been received, and will be kept in safe custody by the Assistant Factory Superintendent. The entries in the cup indent register will be the vouchers supporting the expenditure shown in the stock book of cups. The stock book of cups and the cup indent register will be sent the next morning to the Factory Accountant for checking the stock book.

601. During the packing season the issue of new cups from the cup department will entirely cease, the indents of the cake godowns being met from cups recovered from the cake godowns issuing to the scales.

602. At this season the Assistant in charge of cups will arrange to have at the issuing cake godowns a staff of beldars and parkhias who will take over the cups as soon as the cakes are removed from them. They will examine the cups and stack those that are perfectly good in stacks of ten; those that are cracked or have small pieces broken off, but are still fit for the use of mature cakes, will be made over for the use of the other godowns on their indents, any deficiency being made up from the stacks of good cups. The Assistant in charge of the cake godown will then enter the total number of old cups made over by him to the cup department in the register of old cups. This register will be attested both by the Assistant in charge of cups and the Assistants in charge of the cake godowns from which cups are taken over, and will be submitted daily for the inspection and initials of the Factory Superintendent.

603. When the cake godowns have stopped issuing cakes for the day, and the other godowns have received their full complement of cups, the balance of recovered cups will be counted over by the Assistant in charge of cups and removed to the cup godowns. He will then bring on stock the total number of cups received (number removed to the cup godowns plus the number issued to cake godowns), and will make a corresponding debit of the number of cups shown by the indents as issued. With care about 75 per cent. of cups ought to be thus recovered for re-issue.

CHAPTER XI.

TEMPORARY ESTABLISHMENTS.

SECTION I.

Employment of temporary establishments.

606. The Factory Superintendent is authorised to entertain all necessary temporary establishments required for the recognised operations of the Factory, whether on daily or monthly wages, subject to the conditions laid down in the several rules of this Chapter.

607. Establishments will be entertained in accordance with the authorised scale (Appendix D), which gives in detail the maximum establishment of every department during the working season, the approximate period during which the services of the men will be required, and the rate of wages, whether daily or monthly, which is to be paid in the several departments.

608. The authorised scale will include all temporary employes of the Factory, whether on daily or monthly wages, whose rate of pay does not exceed Rs. 20 a month, and whose duties are of an ordinary and recognised nature connected with Factory operations.

609. No additions to, or alterations in, the authorised scale will be made, except with the authority of the Factory Superintendent, if he is satisfied as to the necessity of such changes, which should be published in the Factory order book. A copy of this order must be submitted for the information of the Opium Agent.

610. For the employment of temporary hands, such as extra Assistants, clerks and others, whose salary exceeds Rs. 20 a month, the Factory Superintendent will in each case obtain the previous sanction of the Opium Agent in writing.

611. It must be clearly understood that the employment by the Factory Superintendent of temporary hands of every description is restricted for duties of a *bona fide* temporary character.

612. When any Factory operations are about to begin, necessitating the employment of temporary hands, the Factory Superintendent will issue a notification to that effect in the Factory order book giving the date from which work is to begin. This will be the authority for the Assistants in charge of the departments to entertain the necessary establishments in accordance with the sanctioned scale. It is, however, the duty of the Factory Superintendent to satisfy himself that only the requisite staff is taken on for the work in hand and not necessarily the maximum staff shown in the authorised scale. The Assistant Factory Superintendent will be held responsible that these instructions are observed in the departments under his control.

613. When a coolie or artisan is engaged for the first time on the temporary establishment, he will be furnished at the muster by the sirdar of his department with a metal ticket before he is permitted to enter the Factory. These tickets will denote by their shape the class to which the workman belongs, and will have impressed on them the distinctive mark of the department and the number of the workmen on the attendance roll.

614. The tickets will be of the following descriptions:—

for beldars	round,	of tin,
for boys	oval,	of tin,
for women	diamond shape,	of tin,
for cake-makers	round, well finished,	of zinc,
for artisans and dandidars	oval, well finished,	of zinc.

615. On first appointment of temporary establishment, Assistants will invariably give the preference to men who have worked in the department in previous years. Only when there are no more old hands forthcoming will new men be engaged, unless valid reasons exist for passing over the claims of older hands.

616. In every department there will be an attendance roll of the work-people (Factory Form No. 134), wherein will be entered the name of each person employed on the temporary establishment, his caste and his village; and each person will also have a serial number in the register. Two copies of the attendance register will be in use in each department, a copy being used for every alternate month to enable its being sent for check with the pay bills at the end of the month without inconvenience to the work.

617. A workman who has once been taken on the temporary establishment can only be dismissed by the Assistant in charge of the department on reduction of establishment; but should the Assistant desire the dismissal of any one working under him for any other reason, he will report the case for the orders of the Factory Superintendent, or of the Assistant Factory Superintendent, in departments under that officer's immediate control.

618. It is not necessary that any lengthy report should be made when an Assistant desires the dismissal of a temporary hand in his department. It will be sufficient if the name and number of the person and the fault he has committed be entered in the memorandum book of the department, and submitted to the Factory Superintendent, or to the Assistant Factory Superintendent, as the case may be, who will investigate the case at once and pass orders.

619. An Assistant is not permitted to allow any workman under him to leave the Factory after he has once been mustered in, or until the proper hour for closing work. If urgent leave be required by any temporary hand during the day, the matter will be brought before the Factory Superintendent, or the Assistant Factory Superintendent, as the case may be, who will enquire into the case and grant the leave if he thinks fit.

620. A register (Factory Form No. 135) will be kept in the Factory Superintendent's office in which will be recorded the names of all persons dismissed for theft of opium or other serious offences, and

who have been declared by the Factory Superintendent unfit to be again employed in the Factory. Every order in this register will be initialled by the Assistant Factory Superintendent and all Assistants, who should ensure that sirdars working under them are cognisant of the persons prohibited from being employed, and that the orders of prohibition are being carried out. A copy of this register will be kept up in vernacular by the Inspector of the guard who will be responsible that such persons are never admitted into the Factory.

621. It is strictly prohibited to employ Factory servants for private purposes. This does not affect the employment of Factory artisans who undertake private work, on their own terms, during hours they are not employed at the Factory.

622. Assistants in charge of Departments will be held responsible that no children, or men and women physically unfit for work, are employed under them. Women with children in arms should be excluded from all departments working in opium. This objection does not apply to the Trash and Leaf Departments, provided the women give their full tale of work.

SECTION II.

Mustering of temporary establishments.

623. One Factory Assistant, generally the last in seniority, will be told off as the mustering officer, and he will muster the coolies and other work-people by enumeration only, every morning before work begins.

624. The mustering time will be half an hour before work begins at the Factory, *e. g.*, if work begins at 10 A. M., the mustering officer will begin to muster the coolies and work-people (who have already assembled in the space allotted for the purpose) at 9-30 A. M. At the latter hour a bell will be rung, or the whistle will be sounded, and the work of mustering will begin.

625. The mustering will be done in the open space between the main gate and the road on the west side of the Factory, and in this space the work-people will be arranged by the sirdars of the godowns or departments to which they belong in lines, two deep, for facility of enumeration.

626. The mustering officer will be guided as to the number of coolies of each department to be admitted, by the Factory muster roll (Factory Form No. 136), which shows in detail the authorised scale of each department, and by the orders published in the Factory order book giving the date of first entertainment of establishment for the several departments.

627. As the coolies of each godown or department are drawn up, the sirdar in charge will provide each person with a metal ticket bearing the distinctive mark or number of the godown or department and the serial number of the coolie.

628. The sirdar having drawn up in order the workpeople of his department and ascertained that each person has a metal ticket, the mustering officer will count them, cursorily inspect their tickets, and enter the number present in the proper column of the Factory muster roll. The workpeople will then be passed through the main gate, each person showing his metal ticket to the sentry as he passes through. The sentry will not permit any person without a ticket to pass through; nor will any person be admitted through any other gateway.

629. After the first musters have been completed, and the coolies and work-people passed into the Factory, those who are late or are seeking to fill vacancies will be mustered.

630. At the hour fixed for work to begin, the late arrivals will first be mustered, their names taken by the sirdars of their respective departments, initialled by the mustering officer as correct, and submitted by him to the Assistant who keeps the attendance roll of the department to which the person belongs, to be entered in the attendance roll for a fine of three pies each person.

631. The mustering officer will then proceed to fill up vacancies in the several departments, with the help of their respective Assistants or sirdars, see that metal tickets are properly distributed, and pass the rest of the people into the Factory in the manner described in Rule 628.

632. The workpeople having got to their respective departments will be drawn up in line by the sirdars for the Assistants in charge of Departments to muster them by name, and to enter the fact of their presence in the attendance roll of the department. A similar attendance roll in Hindi will be kept up by the sirdar of each department or godown.

633. The English attendance rolls are to be written up every morning before commencement of work by the Assistants in charge of the several departments from their *bona fide* observation. The practice of copying into the English attendance roll from the sirdar's roll, or at his dictation, is strictly forbidden; nor is mere enumeration sufficient. Every coolie's name is to be called out, and the Assistant will see that the person answering to a name is really the one whose name is on the list. On completion of the roll-call the Assistant and the sirdar will each in his own book enter at the foot of the day's column the total number of workpeople present, and will initial the entry. The totals in the two attendance rolls should tally with each other and with the total in the day's Factory muster roll.

634. A similar muster to that described in Rule 632 above will be made by the Assistant in charge of a Department immediately before he closes work for the day. This will act as a preventive against people being locked up in godowns for the night, as occasionally happens from want of due care in taking the evening musters.

635. On rainy mornings Rule 630 will be so far relaxed that late arrivals up to 10 A.M. (and correspondingly when the Factory opens at a different hour) will not have a fine inflicted on them. The approval of the Factory Superintendent must, however, first be obtained.

636. Every evening as the workpeople of each department are mustered out of the Factory, the sirdar of the department will collect the metal tickets from them, and deposit them in the place specially set aside for the purpose. The name of every person who is without a ticket will be taken down, and the following deductions will be made by the Assistant in charge of each department at the end of the month from the pay of workpeople who lose their tickets:—ordinary tin tickets, one anna each: zinc tickets, two annas each. These sums will be entered in the fine column of the attendance roll and pay-bills.

637. The mustering officer, after he has filled up the Factory muster roll in the morning, will circulate it among the Assistants under whom the workpeople are employed. Each Assistant, on receiving the Factory muster roll, (having previously in accordance with Rules 632 and 633 mustered by name all his workpeople), will certify by his initials against his department on the margin of the document, that the number of men, women and boys entered thereon as working under him that day is correct. He will then without delay pass the paper on to the next Assistant.

638. The paper will be finally returned to the Factory Superintendent's office through the Assistant Factory Superintendent who will initial it after examination of the figures shown against the departments for the working of which he is answerable. It should reach the Factory Superintendent's office not later than 2 p.m., when work begins at 10 a.m., or 10 a.m., when work begins at 6 a.m., where it will be filed for the purpose of checking attendance rolls and pay-bills of establishment by the Factory Accountant.

639. In the malkhanna and the several sections of the caking and packing operations which are directly under the Assistant Factory Superintendent, that officer will allot the attendance rolls of the workpeople of the various sections to the several Assistants, permanent and temporary, placed under his orders. This will not in any way relieve him from the responsibility of seeing that the attendance rolls of the establishments under his control are being kept up strictly according to rule.

640. Irregularities, such as omissions of daily totals, initials of Assistants, &c., in the attendance rolls, will be brought to the notice of the Factory Superintendent by the Factory Accountant, through the medium of his objection statements, when checking the rolls at the beginning of a month.

641. For purposes of control the Factory Superintendent will periodically and without warning inspect the attendance rolls of departments and godowns taken at random, and will satisfy himself that the work of mustering is being properly performed.

642. The Assistant Factory Superintendent will similarly keep an efficient control over the musters of all departments for the working of which he is answerable. He should without warning inspect and initial the attendance rolls of each of his subordinate departments about once a week, periodically mustering the staff to ensure that the entries are correctly recorded. The Factory Accountant will bring to the notice of the Factory Superintendent the attendance rolls of any department

under the Assistant Factory Superintendent which do not bear that officer's checking initials at least twice during the month.

SECTION III.

Payments to temporary establishments.

643. Pay-bills of temporary establishments (Factory Form No. 137) will be printed so as to be in accord with the authorised scale, each section of that scale having a bill to itself, showing, in columns 1, 2 and 4, the class of labour employed, the maximum sanctioned number under each head, and the pay fixed for each particular class of workpeople. The pay-bills of temporary establishment, other than those shown in the authorised scale will be drawn up in Factory Form No. 138.

644. All Assistants in charge of Departments will submit to the Factory Accountant the pay-bills in duplicate of their workpeople, with the attendance rolls and certificates of undisbursed pay on the reverse of the pay bill, duly written up not later than the first working day in the following month. The pay-bills of departments or godowns, for the working of which the Assistant Factory Superintendent is answerable, will be submitted to the Factory Accountant through that officer, who will affix his signature to every bill.

645. On receipt of the bills by the Factory Accountant they will be entered, in the order of receipt, in a special register (Factory Form No. 139) and they will be taken up for check and disposal strictly in this order. The Factory Accountant will give preference to these pay-bills before all other ordinary current work, in order that all payments to temporary establishments may be completed within a week from the date of receipt of the bills.

646. These bills when received by the Factory Accountant will be checked with the authorised scale of establishment for the number employed and the pay allotted, with the Factory order book for the date of first employment, and with the attendance rolls. The daily and monthly totals shown in the attendance rolls will be checked. The amounts of the bills, as passed by the Factory Accountant, will be stated in words as well as in figures in all the copies. The bills will, after check, be attested by the Factory Accountant and submitted for the signature of the Factory Superintendent, and the attendance rolls will be returned to the several Assistants concerned.

647. The Factory Superintendent will, after examination, counter-sign each bill, and initial the certificate of undisbursed pay. He will then sign a pay order on the original copy of each bill, naming the Assistant to whom the amount of the bill is to be paid by the treasurer. In the case of bills from departments for the working of which the Assistant Factory Superintendent is answerable, the pay orders will be in the name of that officer who will, if necessary, and on his own responsibility, re-endorse such bills as payable to any other Assistant, permanent or temporary, subordinate to himself.

648. These bills will then be incorporated in a contingent bill, in prescribed form, supported by the Assistants' bills in duplicate as vouchers, and will be sent to the Treasury for payment. The Factory Superintendent, as disbursing officer, will endorse such contingent bill as having received the contents, and will submit it in duplicate to the Opium Agent supported by the duplicate copies of Assistants' bills as vouchers.

649. The Assistant authorised to receive the amount of the pay bill of any Department, under Rule 647, will appear in person at the Treasury and receive payment. The Treasurer is strictly prohibited from paying out such amounts except to the Assistants named, who will on receipt of the amount, sign acknowledgment on the back of the original copy of the bill, and also sign against the item in the registers of payments (Factory Form No. 140) kept at the Treasury for the purpose. The original copies of the pay-bills, thus endorsed, will be retained in the Factory Superintendent's office for record.

650. All payments to temporary establishments must be made in the presence of the Assistants in charge, and be attested by them. As each person, on his name being called out, comes up for payment, he will show his metal ticket to the Assistant who, being satisfied as to the person's identity, will make the payment and will put his initials in the attendance roll against such payment.

651. Undisbursed balances from the pay of temporary establishments will not be kept either with the Assistant or the sirdar, but will be lodged with the Treasurer in the Treasury, after the day's payments have been completed, or, if the Treasury is closed, in the iron safe in the Factory Superintendent's office.

652. A register will be kept in the Treasury (Factory Form No. 141) in which all deposits on account of undisbursed pay will be entered. Both the treasurer and the Assistant depositing the money will initial every such entry in the register in each other's presence. When the money is withdrawn the Assistant will again affix his initials and the date in the column of withdrawal. This register will be inspected and initialled daily by the Factory Superintendent when closing the Treasury.

653. A similar register will be kept in the Factory Superintendent's office, and a like procedure to the above will be followed when undisbursed pay is deposited in the Factory Superintendent's iron safe, the Factory Accountant taking the place of the Treasurer. This register will be inspected and initialled by the Factory Superintendent on days when there are such transactions.

654. In all cases of undisbursed pay being lodged in the Treasury or in the Factory Superintendent's safe, the depositing Assistant will pay the amount with a chalan (Factory Form No. 142) duly attested by himself and initialled by the Factory Superintendent. This chalan, with the treasurer's or Factory Accountant's signature in proper column, will be retained by the Assistant, as a receipt from the Treasury or the Factory Superintendent's office for the money deposited by him.

655. When pay is being disbursed in departments under the Assistant Factory Superintendent, that officer, before closing office

for the day, will satisfy himself as to the progress of the payments, and as to the undischursed balances of the day having been duly deposited in the Treasury or in the Factory Superintendent's safe. As the Assistant Factory Superintendent is held personally responsible for all sums which are made payable to him for disbursement, he should not leave the Factory until the deposit chalan, duly receipted by the Treasurer or the Factory Accountant, has been received back, in token of which he should place his initials and the date in the remarks column of the chalan. These deposit chalans, of departments subordinate to him, the Assistant Factory Superintendent will retain in his own custody.

656. Before withdrawal of the money the Treasurer or the Factory Accountant, as the case may be, will see that column 10 of the chalan as well as his own register are duly signed by the withdrawing Assistant, and he will satisfy himself that column 10 of the chalan bears the authority for withdrawal of the Factory Superintendent, or of the Assistant Factory Superintendent, for departments under that officer's control. Without this support the Treasurer and the Factory Accountant are prohibited from repaying undischursed balances of pay.

657. Undischursed balances of pay remaining at the end of a month will be deducted in gross from the pay-bill of a department of the following month. Such undischursed balances must be shown in detail in the certificate on the reverse of the pay-bill of a department for the following month. A list of such balances will be prepared by the Treasurer at the close of each month, and will be submitted by him to the Factory Accountant for the purpose of checking the amounts deducted from pay bills.

658. Should the workpeople whose pay has been thus deducted and credited in the Treasury appear at any subsequent time, a supplementary bill will be made out and submitted at once by the Assistant, in the usual way, through the Factory Accountant, for countersignature of the Factory Superintendent and payment of the amount under the rules of the Account Code.

659. Each department will have a fine book (Factory Form No. 143) and all fines inflicted on workpeople, together with the reasons for such fines, will be entered by the Assistant in the fine book and submitted for the approval of the Factory Superintendent. The fine books of departments and godowns for the working of which the Assistant Factory Superintendent is answerable, will be submitted through that officer. These fine books will be forwarded to the Factory Accountant with the pay-bills.

660. There will be a fine column in the attendance roll and also in the pay-bill forms of temporary establishments, and all fines will be entered in detail against the respective names in the former, and in gross in the latter. The amount drawn from the Treasury will be the amount of wages less the fines, and the payment to individual workmen will be the amount of wages earned less fines inflicted, as shown in the attendance roll.

661. The temporary workpeople at the Factory, although on daily wages, are paid monthly; Sunday is therefore allowed them as a

holiday on full pay. To prevent abuse of this privilege no person will be allowed to draw the pay for a Sunday who is not borne on the muster rolls of the Factory for at least five out of the six days immediately preceding. A holiday published in Factory orders, even if the coolies according to rule are not paid for that day, will be accepted as one of the five days when calculating wages for Sunday. On first entertainment of establishment, if there are less than five days preceding the first Sunday, wages for that Sunday will be allowed if a workman has been present on every one of the preceding days.

662. For holidays given on account of native festivals, temporary establishments on daily wages are not paid; payment, however, is made to the entire temporary staff for all other holidays published in Factory orders.

663. Assistants in charge of Departments will be held strictly responsible that sirdars and others working under them make no deductions from the pay of workpeople inside the Factory on account of loans, or any private account whatever.

CHAPTER XII.

PROTECTION OF THE FACTORY.

SECTION I

Factory Guard.

664. The Factory will be protected by a permanent guard, the sanctioned strength of which is as follows:—

1 Inspector	on Rs. 50 a month.
1 Sub-Inspector	" " 25 " "
1 Jemadar	" " 20 " "
1 Dafadar	" " 15 " "
2 Dafadars	" " 12 " " each.
2 Ditto	" " 10 " " "
20 Barkandazes	" " 8 " " "
30 Ditto	" " 7 " " "
30 Ditto	" " 6 " " "

In addition to their monthly pay, the guard establishment will be furnished with their uniform and accoutrements, a fixed annual sum for which has been sanctioned by Government.

665. The guard will be recruited by the Factory Superintendent from young and active men of good class and of good physique. Special care will be taken to induce men from other districts to enlist, men from the Ghazipur district being restricted, if possible, to a maximum limit of 20 per cent. of the entire force. Active pensioned soldiers and reservists of good character will be enlisted, when available, so as to give the necessary backbone to the force in the matter of drill and discipline.

666. The duties of the Factory guard have special reference to the protection of the Factory against burglaries, thefts and fire. The guard is under the general control of the Inspector, whose duty it is to see to the thorough efficiency of the force as regards (a) drill and general appearance, and (b) knowledge of sentry duty with special reference to Factory rules; and he is responsible to the Factory Superintendent for the strict adherence by the guard to the rules laid down for the security of the Factory and of the property contained therein.

667. The duties of the other officers of the guard, though they may be modified by order of the Factory Superintendent, according to circumstances, will be carried out on the following general lines. One officer in rotation, whether Sub-Inspector, jemadar or senior dafadar, will be on duty at the main gate night and day for general supervision. One of the above officers will be selected by the Factory Superintendent to perform the duties of drill instructor. The four junior dafadars will, in rotation, undertake the relief and posting of sentries.

It is within the power of the Factory Superintendent to nominate a junior dafadar as drill instructor, if he considers one of their number specially competent for the duty. In such a case the dafadar so nominated will conduct the duties of senior dafadar, while the latter will undertake the relief and posting of sentries.

668. Instruction in drill will be limited to ordinary company drill, and the drill instructor will be held responsible that the force march and carry themselves smartly, and that they are neatly dressed and their uniforms cared for. Efficient, to keep up their knowledge of drill, will be required to put in two drills in the month. Recruits should fall in twice a week, or oftener if necessary, until efficient. Drill instruction will be given for an hour in the morning, between 6 and 8 A. M., on days fixed by the Factory Superintendent, who should be present once a month to see that instruction is being properly given. He should also inspect once a month the kit of the force, and so satisfy himself as to the requirements of uniform, &c. During the busy season, from the 1st April to 30th June, drills will be suspended except for recruits.

669. All applications from members of the force for leave, through sickness or otherwise, will be submitted through the Inspector, in Factory Form No. 113A., who will personally bring such cases to the notice of the Factory Superintendent for necessary orders. In the case of privilege leave, the office will first note whether such leave is due; applications for leave, through sickness, must be supported by the Hospital Assistant's written statement. The strength of the force allows of the absence at one time of eight men on privilege leave; and the Factory Superintendent is empowered to grant leave up to this limit to men entitled to it, except during the busy season, from April to June, when every man should be at his post unless medically incapacitated. All cases of leave outside the above restrictions can only be given without pay. All vacancies, whether permanent or temporary, in the guard force, will be filled up by direct authority of the Factory Superintendent, and after his personal inspection of the candidates.

670. The hours for relief of sentries are 3, 6, 9 and 12 o'clock during the day and night. The Inspector will be held responsible that every man in the guard force takes his regular turn of duty according to roster; that no sentry is posted to the same post twice in succession; that the post a sentry is to get is not known to him beforehand; and that a record is kept in a register (Factory Form No. 144) regularly of all postings for reference if necessary. This register will be daily submitted for the inspection of the Factory Superintendent by the Inspector of the guard.

671. The dafadars are held responsible that the barkandazes of their reliefs are properly dressed, properly posted, and made acquainted with the orders of their posts.

672. The dafadar next for duty will "fall in" the men of his relief at the lines a quarter of an hour before the time for changing sentries, and will inspect them before marching off. When marching his relief he will permit no straggling; the march will be strictly according to instructions received at drill.

673. The dafadar will personally place each man of his relief at his post, and will see that he examines all locks within his post and reports

everything as satisfactory before he marches off the old sentry. Having posted all the men of his relief, he will make his report to the officer of the guard on duty at the main gate. The dafadar going off duty will then march his men back to the lines and dismiss them there.

674. Immediately after posting his men the dafadar coming on duty will go round the Factory and examine all looks not previously examined under Rule 673, and will make his report to the officer of the guard on duty. He will also, while on duty, visit his sentries at least once, reporting to the officer of the guard at the main gate any irregularities he may discover.

675. A sentry, before taking over his post, will examine the looks on all gates and buildings within his post, and at once bring to the notice of the dafadar of the relief any irregularities he may notice.

676. A sentry, once posted, will on no account leave his post until properly relieved. He is not to lounge against sentry-boxes, walls or any other support, but to be always on the alert, and to walk briskly up and down at his post, halting only for a few minutes at a time. During the heat of the day and during rain a sentry may take advantage of his sentry-box, or any shade within his post, but when halted he must stand properly "at ease".

677. If a sentry has reason to suspect that an attempt is being made to break into the Factory, he will instantly raise an alarm, and do all in his power to prevent the escape of the burglars.

678. If a sentry discovers, or has reason to suspect, that any building in the Factory or its vicinity is on fire, he will immediately report the matter to the officer of the guard on duty at the main gate, the word being passed quickly and quietly from sentry to sentry. The officer of the guard will at once report the matter to the Factory Superintendent, and will cause the alarm bell to be rung.

679. Sentries on duty at the gates will not permit any one to enter the Factory with a lighted cigar or pipe, nor should a sentry inside the Factory allow any one to pass his post with a lighted article of any description, except authorised Factory lanterns. Should no heed be paid to his remonstrances, he will detain the offender and at once pass the word from sentry to sentry to the officer of the guard at the main gate. The occurrence should under any circumstances be reported to the Factory Superintendent through the Inspector.

680. Property of any description being taken out of the Factory will be passed out through the main gate only; and the officer of the guard on duty will be held responsible that such property is passed out on a pass (Factory Form No. 145) duly countersigned by the Factory Superintendent, except in the case of lots sold at public auctions which will be passed out of the main gate (under Factory Form No. 125) see Rules 579 and 580. Property belonging to the Public Works Department will be passed out on passes drawn out in Factory Form No. 145 upon application by the District Engineer or his duly authorised subordinate, and countersigned by the Factory Superintendent. In such cases the officer of the guard at the main gate should inspect the property and satisfy himself that it belongs to the Public Works Department. All such passes must be made out both in English and Nagri.

In cases of packed provision or abkari chests in locked railway wagons passing out of railway siding gates, a dafadar or an officer of

the guard will always be on duty at such gate while open, in addition to the ordinary sentry, and will personally lock the gate when the wagons have passed out.

The passing of Factory property through any other gate will only be under very exceptional circumstances and with the special authority of the Factory Superintendent, and in such cases too an officer of the guard or a dafadar will be present, in addition to the sentry, while the gate is open.

681. Every sentry will be visited at least once every night between the hours of 9 and 12 P.M., and once between 12 and 4 A.M., by one of the following officers, according to roster approved by the Factory Superintendent:—

The Inspector,
The Sub-Inspector,
The Jamadar,
The senior Dafadar,

and at each post the visiting officer will apply to the control watch, which he will carry, the key of the post.

A visiting officer falling ill, or being unable from other causes to take up his night duties, should at once report the circumstance to the Factory Superintendent, and also to the next officer on the roster, who will take up the duty. In order that the visiting should be effective, officers should continually change their hours.

682. Every morning a report (Factory Form No. 146) will be submitted to the Factory Superintendent, signed by the dafadars and by the officer who visited the sentries on the previous night. The report is designed to include the following information:—

- (a) the number of sentries visited and their posts;
- (b) the hours of visiting;
- (c) the name and number of sentries found offending against the rules of the Factory, and the nature of the offences.

With the report the Inspector will submit the control watch, of which the Factory Superintendent keeps the key, and that officer will personally open the watch, examine the paper dial, affix a new one, and wind and set the watch again for the next night's rounds. The paper dials will be filed for record in the office.

683. The dafadar, during his period of duty at night, will, in addition to his own rounds, also accompany an officer visiting the posts. A lamp will be kept, ready trimmed, at the main gate for the use of the officer on night duty, who should be careful to leave it in its proper place again after each visit.

684. The Inspector of the guard will be held responsible that every member of the force is fully acquainted with these rules, as well as such portions of the rules regarding search, musters, &c., as affect the force, and that each member is furnished with a copy of them in Hindi.

685. Each morning before the Factory is opened for work, the Inspector will in person report to the Factory Superintendent that, after examination, he finds everything in order, or as the case may be, and will report any noteworthy circumstance that may have occurred

during the night. And every evening when the Factory is closed and the gates are locked, the dafadar on duty will in person lodge the keys of the key-boxes and gates at the Factory Superintendent's house. These keys will be obtained again the next morning, when required, by the dafadar on duty, having been kept during the night in a secure place by the Factory Superintendent.

SECTION II.

Search of workpeople.

686. Admittance to the Opium Factory is strictly prohibited except to those working there or having business to transact with the Factory Superintendent; and to those who have the permission of the Factory Superintendent or the Opium Agent to visit it.

687. Permission to visit the Factory, or to inspect the operations, will be granted at the discretion of the Factory Superintendent, or at the request of the Opium Agent. In such cases the Factory Superintendent will issue a pass, kept in counterfoil (Factory Form No. 147), signed by himself, specifying the name of the person to whom it is issued, and the number of persons to be admitted. This pass will be presented to the officer of the guard at the main gate who will admit the visitors after recording their names and the date of their visit in a register kept for the purpose, and permit them to inspect the Factory if accompanied by a Factory officer or an Assistant. If the visitors are not so accompanied, then a dafadar will be told off to take the visitors round. At the close of the visit the pass will be retained by the officer of the guard, and deposited in the office where it will be destroyed by the Factory Accountant, after inspection by the Factory Superintendent.

688. Only the main gate of the Factory will be kept open for ingress and egress of employes and others. The other outer gates will be kept locked unless, for special reasons, the Factory Superintendent orders them to be opened. A dafadar or an officer of the guard must, however, be present as long as such gates are open, to prevent their being used for any other purpose but the special one for which they were opened.

689. All persons leaving the Factory will be searched with the following exceptions:—

- (a) gazetted officers;
- (b) persons who have the permission of the Agent or the Factory Superintendent to visit the place;
- (c) non-gazetted officers employed at the Factory;
- (d) clerks and muharrirs of the various offices at the Factory whose duties may take them within the enclosure;
- (e) the head sirdar, and the malkhana sirdar;
- (f) the two opium parkhias;
- (g) the Hospital Assistant;
- (h) officers of the Factory guard, and barkandazes of the guard when in uniform.

The Opium Agent or the Factory Superintendent has, however, the power to direct the search of any of the above, excepting gazetted officers, against whom there may be reasonable grounds for suspecting that he is taking out of the Factory opium or other Government property. Such search will invariably be made in the presence of the Factory Superintendent.

690. In addition to the search at the main gate, all employes liable to search passing out of the opium enclosure will invariably be searched at the enclosure gate, where a double sentry will be posted during working hours.

691. At the hours when workpeople are leaving the Factory in large numbers, e.g., at 4 P.M., when the Factory is closing, and at 9 A.M., or breakfast time, during the manufacturing season, there will be at the main gate for supervision of search :—

- (a) the Inspector or Sub-Inspector of the guard ;
- (b) one Factory Assistant according to roster ;
- (c) a dafadar ;
- (d) six barkandazes.

And at the gate of the opium enclosure there will be the jamadar or dafadar, in addition to the two barkandazes on sentry duty.

692. The following mode of search will be employed :—

- (a) all puggris and dhotis will be opened out and shaken ;
- (b) the armpits will be carefully noticed. Sufficient indication will be given by the men themselves, when shaking their cloths, whether they carry their arms naturally or hang them suspiciously ;
- (c) suspicious appearance in any other part of the workman's person should be examined in the guard room, in the presence of one officer and one barkandaz.

693. No male is to search a female. Female searchers for women will be stationed at the two posts of exit, viz., the main gate and the opium enclosure gate. There will be two female searchers attached to each post, relieving each other every 3 hours, from 6 A.M. to 6 P.M., or such time as the Factory closes for the day. The female searchers will, at least twice a week, be changed from one post to the other, without warning, by the Inspector, who will keep a record of such changes for the information of the Factory Superintendent in Factory Form No. 144.

694. The female search will be conducted behind screen walls near the respective gates. Women are on no account to be taken into any enclosed room for search.

695. The exit of the workpeople will commence not more than half an hour before the time fixed for closing the Factory, and not before 9 A.M. for breakfast, when work begins at 6 A.M. During the manufacturing and satta seasons the cakemakers and others engaged in those special duties, which are completed earlier, will be permitted to leave the Factory at an hour to be fixed by the Assistant Factory Superintendent, on completion of their special work.

696. The workpeople of each department will be accompanied to the exit gate by at least one sirdar of the department, who will be

held responsible that the men are passed out in an orderly manner. He will also be held responsible that his workpeople are not brought up to the gate while those of another department are being passed out.

697. Whenever opium or any other property, supposed to be the property of Government, is found on the person of any one leaving the Factory, who cannot show a duly signed pass for the same, he will be detained by the guard at the gate, and the matter at once brought to the notice of the Factory Superintendent, who will direct the course to be adopted.

698. Search at the gates is not to be made so as to offend in any way the prejudices of the people being searched. The senior officer of the guard and the Assistant on duty at the gate will be held responsible that search is made effectually, yet not offensively.

699. In godowns where opium is stored, such as cake godowns, the malkhana, the lewakhana and the abkari department, coolie mates will be stationed at all exit gates of the godown or department, and no coolie will be permitted to pass out during working hours, except with the permission of the sardar; but before passing out the man will be searched by the coolie-mate.

700. If opium is found in the search at the main or opium enclosure gates on the person of any one belonging to one of the above departments, the sardars and the coolie-mates of the department will be held answerable. With a view to efficient control under this head, a list of coolie-mates at the several entrances to a department where opium is stored will be daily written up by the Assistant in charge.

701. Chaprassis and servants of this class, accompanying officers in and out of the Factory enclosure or the main gate, will not be searched when they are so attached on duty, unless there are reasonable grounds for suspicion, when the guard at the gate should give his reasons to the officer with whom the chaprassi is, and a search will be made in the officer's presence.

702. An officer of the guard, usually the senior dafadar, will be nominated by the Factory Superintendent as the "saffai" dafadar. It will be one of his duties to see that the entire Factory premises are kept clean; and he will go round every morning and afternoon to ensure that the work is done. He will be present at stated hours when any part of the inner opium enclosure is swept out. The sweeping or cleaning of the buildings and grounds of this portion of the Factory will only be done in his presence, and when completed, the sweepers will be passed out of the inner enclosure gate and not permitted in again until the appointed hour.

703. All sweepings, broken cups, etc., which are usually taken out of the Factory, will be passed out of the gate near the pump at 3 P.M. daily, in the presence of the saffai dafadar, each basket of such rubbish being first emptied out and examined in his presence before being thrown away.

704. Broken pottery from chalan jars will be taken out by the gate in the dhoi yard at 12 noon daily during the season when chalan jars are being washed, in the presence of the Assistant in charge of the lewakhana and a dafadar, each load being carefully examined to see that the pottery has been properly washed. All rubbish and pottery will be thrown at the spot indicated by the Factory Superintendent.

SECTION III.

Locking up of Opium Buildings.

705. All buildings in which opium, in any state, is stored will have one main entrance which will be double-locked from the outside with two Chubb's padlocks with duplicate keys; and the two padlocks of each building will be stamped at the back with the letters A and B, and the distinctive mark of the building immediately below; thus, for No. 1 cake godown A-1, B-1; for the malkhana A-M, B-M; for the abkari department A-Ab, B-Ab; and so on.

706 The two keys of the A series of locks will be thus distributed:—

- one key, with the Assistant in charge of the Department;
- one key, in the Factory Superintendent's key-box.

The two keys of the B series of locks will be kept—

- one by the head sardar of the Department or godown;
- one by the Factory turnkey.

The object of the above distribution is twofold: firstly, that the Factory Superintendent and the turnkey, both being on the spot, can open any building in case of accidents after working hours; secondly that no building can be opened without the presence of an officer and a native subordinate, thus acting as a check on the possibility of buildings being opened for illicit purposes.

707. All other doors and openings in the buildings, such as windows, sky-lights, etc., will be locked from inside with ordinary iron padlocks. These iron padlocks will be arranged in sets, so that all the locks in each set may be opened by one key; and each set with all its keys will be marked with a distinctive mark. In issuing iron padlocks for buildings where opium is stored, the store-keeper will always issue them in sets. Only when the number in a set is insufficient will those of another set be issued. All the inside locks would thus be opened by one or, at most, two keys.

708. All keys which are not in the possession of the Factory Superintendent, or the Assistants in charge, or the head sardars of departments, will be in charge of the turnkeys of the Factory, who will lock and unlock buildings with their own hands, and will lodge the key, when not required, in the proper key-box at the entrance gate of the opium enclosure. The key of these key-boxes will, at the close of the day's work, be securely lodged by the dafadar on duty at the Factory Superintendent's house, where they will be kept in a secure place till next morning.

709. Only the permanent turnkeys will have charge of the keys of buildings in which opium is stored, and if there is more than one permanent turnkey, these buildings will be divided off between them for convenience. The locking and unlocking of all other buildings will be done by the turnkeys on the temporary establishment.

710. Neither the keys of the Factory buildings nor the keys of the key-boxes near the opium enclosure gate will, on any account,

be taken outside the Factory by the turnkeys. The guard on duty at the main gate will be held responsible that this order is strictly attended to.

711. In locking up cake godowns, the abkari and lewa departments, and the store department, the Assistant in charge will, in company with one of his sirdars, examine every door, window and skylight, and satisfy himself that all inside locks are securely fastened. He will then lock the main entrance in company with the turnkey.

In locking up the malkhana and alligation room and the caking room when opium or provision chests are stored in them, the Assistant Factory Superintendent, who is in charge, will be accompanied by a dafadar, who will go round to each door and satisfy himself that all the locks are securely fastened from the inside before the outer door is locked.

712. Assistants in charge of Departments containing opium or stores will on no account entrust their keys to their sardars or others for the purpose of opening or closing their several godowns or departments, but the main entrance of all such godowns and departments will be locked and unlocked by Assistants personally. In case of illness or inability to attend the Factory, the key should be sent under a sealed cover to the Factory Superintendent, who will issue the necessary orders for the opening or closing of the department concerned.

713. After the Factory is closed for the day, the officer of the guard on duty at the main gate, accompanied by a dafadar according to roster, will—

- (i) visit each godown and examine the outside locks;
- (ii) walk over the pukka roofs to see that no workmen of the Public Works Department or others are left on them, before the gates leading into the square are locked for the night;
- (iii) deposit under charge of the sentry at the main gate any ladders used by the Public Works Department which may be left about the Factory.

714. The senior officer of the guard, who goes on the above round of duty will submit personally to the Factory Superintendent in the evening a report of his examination into the security of the Factory. A similar report, after personal examination, will be made by the Inspector of the guard, every morning throughout the year soon after sunrise, to the Factory Superintendent as laid down in Rule 685.

SECTION IV.

Protection against fire.

715. The Factory Engineer has immediate control of the firemen, has charge of all fire-engines, extincteurs, and their appurtenances, and control of the reservoirs, and is responsible for the proper working of the pumping engine and pumps for the supply of water for fire extinction purposes.

716. The fire brigade will consist of 48 firemen and three khalasis, and will be divided into two sections, each consisting of one khalasi and 24 men. A fresh section will come on duty at 8 P.M. daily, will remain on duty at the quarters provided for them until work begins again the next day. During working hours both sections will be employed in their different departments throughout the Factory, and at 8 P.M. the relieving section will come on. On Sundays the section that has been on duty the previous night will be relieved at 6 A.M., and will again come on duty from 12 noon till 8 P.M.

717. The firemen will be selected from the able-bodied coolie establishments of the Factory by the Factory Superintendent himself, preference being given to those men who have their homes near the Factory, or who are directly employed under the Factory Engineer in connection with machinery and workshops. These men will be paid an extra monthly allowance sanctioned by Government for this duty and will in addition be always employed in the coolie establishment of one or other of the departments of the Factory in preference to others.

718. The Engineer will keep a muster-roll of the men for night or Sunday duty in their sections, and will muster his men at every relief and once between 4 P.M. and 8 P.M. The firemen will also be visited once between the hours of 9 P.M. and 5 A.M. on at least three nights in the week by the Engineer. It will be sufficient for him then to count the men, and only in the case of any being absent should he wake them and take the muster. In these visits he will be accompanied by a khalasi. In case of sickness or leave, the Factory Superintendent, on the report of the Engineer, will fill up the temporary vacancies.

719. The firemen will be drilled regularly once a week at the hand-engines and extinguishers, serving out hose, helping with ladders, buckets, etc., and once a month at the two steam fire engines, which should be worked alternately. The Engineer will be held responsible that every member of the brigade understands all the details of the works except the actual engine-driving. Each section should also be so trained that each man in it knows thoroughly the special work that would be allotted to him in case of a fire, and when the alarm is sounded he should fall in at once to his special duty. The khalasis should be trained to understand the engines, and to be able to handle them in case of necessity. Special aptitude in this work entitles them to extra monthly remuneration sanctioned by Government.

720. The steam fire engines will always have fuel ready in the fire-box and water in the boiler, so that in case of an emergency no time will be lost in getting up steam. The engine lamps will always be kept trimmed and on the engines, so as to be ready for use at a moment's notice. Each khalasi as he comes on his tour of duty will inspect the fire-box, boiler and lamps, and will report to the Engineer as to their condition.

721. All the reservoirs in the Factory will be consecutively numbered. The Engineer will inspect them every morning to see that they are full, and will at once bring to the notice of the Factory Superintendent any leakage he may discover in any of them. They should be periodically emptied out and cleaned in rotation. The steam pumps will be worked whenever it is necessary to supply the reservoirs

or any department of the Factory with water. With proper care it should not be necessary to work them for more than an hour or two every day during the busy season, or for the same period every second or third day during the slack months.

722. In the event of a fire breaking out in the Factory or its vicinity, the Engineer, or the officer of the guard at the main gate, whichever discovers the fire first, will at once cause the alarm bell over the office to be rung continuously until the fire brigade with their engines and appliances have assembled. All Assistants and other permanent employes who may be on the spot or in the neighbourhood, will be expected to answer the alarm and to assist to the best of their power in extinguishing the fire.

723. The extincteurs will be numbered consecutively, and as a safe guard that they are all in good working order, one of them will be worked, in rotation, every three months in the presence of Factory Superintendent. The extincteur will be thoroughly examined, and recharged if it is found not to need any repairs.

724. The Engineer will on no account leave the station without first obtaining the permission of the Factory Superintendent. Such permission will only be given when there is a Factory Assistant on the spot with sufficient mechanical knowledge to work the engines.

725. The Opium Agent and the Factory Superintendent will occasionally, and without warning, have the fire alarm sounded, and will have the brigade at work at any particular spot indicated, so as to test the training of the firemen and the efficiency of the engines and appliances.

726. Once a week, on Monday mornings, the Engineer will submit to the Factory Superintendent a report (Factory Form No. 148) on the working of his department. The report will contain information on the following points :—

- (a) condition of the fire-engines and their appurtenances, and the repairs (if any) done to them during the week ;
- (b) attendance of the firemen ;
- (c) dates on which weekly drills were held ;
- (d) condition of reservoirs ;
- (e) condition of the pumps and the pumping engines ;
- (f) hours at which the brigade men on night duty were inspected under Rule 718.

This report does not do away with the necessity of submitting reports during the week, if special circumstances call for them.

CHAPTER XIII.

WORKSHOPS AND MACHINERY.

727. The workshops are primarily intended for the manufacture and repairs of all apparatus required for the working of the Factory, and for repairs of Factory machinery which can be satisfactorily undertaken with the existing plant. Weighment and laboratory articles usually supplied from the Factory to District Officers will also be made up or repaired at the Factory workshops.

728. The Factory Engineer will be in charge of the workshops, and will be responsible for all work turned out. He is strictly prohibited from undertaking any work in the workshops except under authority of the Factory Superintendent.

729. Any articles required for the use of the workshops will be obtained in the ordinary way through the store department by indent, which must be passed by the Factory Superintendent.

730. Authority for undertaking work, or original repairs, in the workshops will be obtained by requisition (Factory Form No. 149), which must be passed by the Factory Superintendent. This applies also to original work required for the workshops, when the Factory Engineer will himself submit the requisition. As soon as a requisition is received by the Factory Engineer, he will give it a serial number and will bring it on his workshops register (Factory Form No. 150).

731. As a rule, all mechanical work will be done in the workshops under the control of the Factory Engineer, but when a carpenter or blacksmith is required for emergent or other work which cannot be sent to the workshops, the Assistant requiring such assistance will submit for the Factory Superintendent's sanction a demand (Factory Form No. 151) specifying the work, its probable duration, and the number of carpenters or blacksmiths required. These will be sent by the Factory Engineer, who will note on the back of the demand the hour when the men were sent. On completion of the work the indenting Assistant will fill in the hour when the men were sent back, and endorse the demand in token of completion of the work. The demand form will then be filed by the Factory Engineer. In departments under the Assistant Factory Superintendent, all requisitions and demands will be submitted through that officer.

732. The Factory Engineer will keep up the following records:—

- (a) Workshop diary (Factory Form No. 152) showing how the men under him have been employed during the day;
- (b) Workshop register, in which will be entered each requisition, as it is received, in serial order by date, a new serial order beginning with each month.

733. For check, the following procedure will be followed:—

- (a) the workshop diary will be placed daily before the Factory Superintendent for inspection and initials;

- (6) the workshop register will be checked daily by the Factory Accountant with the stores and laboratory stock ledgers, or with dead stock registers of the departments to which the articles have been made over, if they are original works. This register will be placed before the Factory Superintendent weekly for his inspection and initials.

734. All machinery, boilers, pumps, steam tables, morphia tables, abkari presses, and other appliances of a mechanical character, are directly under the control of the Factory Engineer, who is responsible that they are in safe working order. They should, therefore, be constantly inspected, and the Engineer should satisfy himself that those in charge are competent, and have the requisite technical knowledge for working them.

735. Once a year, at the period between the close of packing and the beginning of the new season's work, or between the conclusion of manufacture and the beginning of satta operations, the Factory Superintendent will submit a requisition to the Opium Agent for the deputation of an outside engineer for a thorough examination of the boilers and machinery at the Factory. The Agent, on such requisition, will communicate with either the Locomotive Superintendents of one of the Railway Companies, with the Superintendent of some Government Factory, or with some Engineering firm, for the temporary deputation of a qualified engineer, who will conduct the necessary examination and submit a report on the plant, a reasonable remuneration for the work being arranged by the Opium Agent.

CHAPTER XIV.

ACCOUNTS AND THEIR CHECK.

SECTION I.

Stock Accounts and Returns.

736. Daily throughout the manufacturing and import season, and weekly (7th, 14th, 21st, and end of month) during the rest of the year, the Factory Superintendent will submit to the Agent his Factory stock account (Factory Form No. 153), showing the opening balance of the last return, receipts and expenditure during the day or week, as the case may be, and the closing balance of each description of stock compiled from the stock books of the several departments in the Factory. The Assistant in charge of each Department will fill up the account of his department and will sign it. The entire stock account will then be examined and signed by the Factory Accountant before it is countersigned by the Factory Superintendent and submitted to the Agent.

737. On the conclusion of weighments of opium, leaf and trash, and on the completion of the standard computation of chalang, the Factory Superintendent will submit to the Agent reports on the results of the season. The reports will review in detail:—

- (i) the supply and quality of leaf, the mode and efficiency of packing, the manner of transport, and any other circumstances requiring the notice or attention of District Officers;
- (ii) similar points regarding trash;
- (iii) points connected with the packing and delivery of opium; the condition in which the chalang were received; the quality and outturn of the season's opium; the manner in which the work of classifying the drug was performed in the districts; and any circumstances or suggestions connected with the operations which are likely to be of interest or value to District Officers.

738. The Factory Superintendent will submit to the Opium Agent his annual report on the operations of the Factory not later than the 15th of November in each year, and with this report he will submit, in duplicate, statements embodying the transactions of the period extending from the 1st November to the 31st October, under the following heads:—

- (i) gross produce of opium delivered (Factory Form No. 154);
- (ii) gross and dandeta produce of opium, and average consistence (Factory Form No. 155);
- (iii) quantity and classification of leaf delivered (Factory Form No. 156);

- (iv) gross and damdeta quantity of trash delivered (Factory Form No. 157);
- (v) gross, damdeta and average of pasewa; and quantity of kaffa delivered (Factory Form No. 158).
- (vi) abstract of receipt and expenditure of opium (Factory Form No. 159);
- (vii) receipt and expenditure of leaf (Factory Form No. 160);
- (viii) receipt and expenditure of trash (Factory Form No. 161);
- (ix) manufacture and issue of alkaloids (Factory Form No. 162).
- (x) weight and average weight of packed chests, and consistence of cakes packed (Factory Form No. 163).

These returns will be submitted to the Board of Revenue by the Agent with his annual report not later than the 1st January.

1739. On the 15th December of each year the Factory Superintendent will submit to the Opium Agent the following stock accounts of opium leaf and trash, incorporating the entire transactions for the period extending from the 1st November to the 31st October. These accounts will after countersignature be submitted by the Opium Agent to the Accountant-General, Bengal.

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| Table No. | I.—Account of receipt and expenditure of opium (Factory Form No. 164). |
| „ No. | II.—Stock account of provision opium (Factory Form No. 165). |
| „ No. | III.—Stock account of excise opium chests and cakes (Factory Form No. 166). |
| „ No. | III(a).—Manufacture and issue of excise opium (Factory Form No. 167). |
| „ No. | IV.—Stock account of raw material for manufacture of alkaloids (Factory Form No. 168). |
| „ No. | V.—Manufacture and issue of alkaloids [same form as under head (ix) in preceding rule]. |
| „ No. | VI.—Receipt and expenditure of leaf (Factory Form No. 160). |
| „ No. | VII.—Receipt and expenditure of trash (Factory Form No. 161). |

740. In compiling Table No. I of the preceding rule, the following instructions will be observed. The account will be opened with the balance on the 31st October last. The cakes remaining on hand on the 31st October will be brought to credit. The audited figures of the actual amount of all descriptions of opium (including pasewa and district dhoi) will be credited from the detailed register of chalans kept in the office. It should be borne in mind that the fines imposed or levied on good or any description of opium are not to be deducted from the stock credited in this account, as such fines do not affect the weight of opium received. The total amount of contraband opium received from the 1st November to the 31st October will next be credited, as well as opium received at the Factory from any other source. The sum of all the above items will form the total receipt for the period covered by the statement.

741. On the expenditure side of the Table the following items will be debited:—

- (i) the total amount of opium for the manufacture of provision cakes exported from the malkhana, reduced to 70° consistence, as entered in column 6 of the register of caking

- results, minus the actual loss for adhesion to vessels and on account of foreign substances, such as pottery, sticks, etc., as entered in columns 12 and 13 of the same register.
- (ii) the amount of lewa expended on manufacture, settai and repairs of provision cakes as shown in the stock book of lewa, minus the quantity received back from the manufacturing and sattai operations as shown in the stock book of material for lewa manufacture;
 - (iii) the amount of abkari opium reduced to 70° consistence issued from the Factory to each revenue district or to the Board of Revenue, Lower Provinces, as shown by the stock book of abkari opium;
 - (iv) the amount of opium of all descriptions transferred to the laboratory for the manufacture of alkaloids out of the stock credited on the receipt side.
 - (v) the provision cakes packed and despatched from the Factory, or damaged cakes transferred for lewa purposes, out of the number credited on the receipt side of the account.
 - (vi) any other items of expenditure or issue not included under the above heads.

The sum of the above items will represent the total expenditure for the period covered by the statement.

742. The balance of opium of all descriptions, lewa, pasewa, dhoi and cakes of the previous year, as exhibited by the various stock books, will then be entered and added to the total expenditure. The sum of the balance and the total expenditure will then be compared with the total receipts, and the difference will be shown as a godown deficit on the expenditure side, or a godown surplus on the receipt side, as the case may be.

743. All entries in Table No. 1 prescribed in Rule 739, as well as entries in the statement prescribed under head (vi), Rule 738, will be shown at 70° of consistence.

The details required for the statements prescribed in Rule 738 and for the tables prescribed in Rule 739 will be obtained from the records of the Factory Accountant's office and from the stock books and registers of the various Departments which are authorized by the rules of this Manual to be kept up.

744. The closing balances on the 31st October shown in all the tables prescribed in Rule 739 will represent the stock in hand obtained in accordance with the instructions laid down in this Manual under the Chapters dealing with each description of stock.

As actual verification of the stock of opium, lewa, pasewa, dhoi, leaf and trash is not always possible except at the end of March when stocks are at their lowest, the Factory Superintendent will endeavour to obtain by estimate, where weighment is not possible, as accurate a balance as he can for the purposes of the statements prescribed in Rules 738 and 739 for the twelve months ending the 31st October.

745. At the commencement of manufacturing operations the Agent will submit to the Board of Revenue, Lower Provinces, a report stating the consistence at which the cakes are being manufactured. A final report will also be submitted by the Agent upon the conclusion of manufacturing operations.

SECTION II.

Checking of Opium, Leaf, Trash and Cup Accounts.

746. The books kept in connection with the stock of opium, leaf, trash and cups in their respective Department, will be checked in the Factory Accountant's Department in the manner laid down in this section.

747. I.—Import register of opium—

- (i) Compare import register with the invoice of chalans received from District Officers ;
- (ii) Check columns 30 and 31 of the import register with the programme of weighment and parakh submitted by the Import Officer.

748. II.—Malkhana stock book—

- (i) check the entries on the import side with the “register of chalans computed,” and compare with the chalan register.
- (ii) check entries in columns 4 and 6 with corresponding entries in the register of confiscated opium, etc., kept in the laboratory.
- (iii) check entries on the export side with the Malkhana Assay memorandum.
- (iv) check entries of export with the corresponding entries in the register of caking results and stock books of abkari and lewa ;
- (v) check opening and closing balances and all intermediate calculations.

749. III—Register of caking results—

- (i) check columns 2 and 4 with Malkhana Assay memorandum.
- (ii) check conversion in column 5 with tables ;
- (iii) compare column 4 with certificate of caking vat assay ;
- (iv) compare column 8 with the corresponding credits in the godown register of cakes, the receipt book of cakes, and the stock book of cakes kept by the Assistant Factory Superintendent ;
- (v) check calculations in column 11 with tables ;
- (vi) check all lateral additions, etc.

750. IV.—Stock book of cakes—

- (i) check opening and closing balances and totals, etc. ;
- (ii) check issues with corresponding receipt entries in the stock books of lewa, abkari or laboratory, and authority of Factory Superintendent for such issue ;
- (iii) check any other issue of cakes with receipt of receiving officer and authority of Factory Superintendent for issue ;
- (iv) check despatches with number of cakes written off as packed, and also with the packing returns of the day, and finally also with the receipt of the Intendant of the Presidency Godowns.

751. V.—Godown register of cakes—

- (i) check balances of cakes on the close of each month ;
- (ii) check issues of cakes for packing or other purposes with the stock book of cakes.

752 VI.—Stock book of material for lewa—

- (i) check the receipts with the corresponding issues from the stock books of the several Departments ;
- (ii) compare pasewa receipts with memorandum of pasewa received into the Factory.
- (iii) check assay consistences with assay slip, etc. ;
- (iv) check conversions to 52·50° with the help of tables ;
- (v) check total issues, column 10, with corresponding credit in the stock book of lewa ;
- (vi) check totals and opening and closing balances, etc.

753. VII.—Stock book of lewa—

- (i) check opening and closing balances and totals, etc. ;
- (ii) check issues with Indent Register.

754. VIII.—Stock book of abkari—

- (i) check opening and closing balances and totals, etc. ;
- (ii) compare consistences with Malkhana Assay memorandum ;
- (iii) check conversion of the gross opium to 90° consistence with the help of tables ;
- (iv) check entries in column 7 with corresponding entries in column 12 ;
- (v) check entries in column 8 with authority, and with credit in the stock book of the receiving Department ;
- (vi) check issues, column 14, with authority in abkari order book and with the indents passed by the Opium Agent, and finally with the receipts of the receiving officers ;
- (vii) check number of chests in columns 11 to 15 with the corresponding quantity of opium exhibited in the same columns.

755. IX.—Contraband opium register—

- (i) check receipt entry with invoice of forwarding officer ;
- (ii) check conversions to 70° consistence ;
- (iii) check expenditure entries with credits in the stock books of the receiving Departments.

756. X.—Stock book of confiscated opium etc.—

- (i) check opening and closing balances, totals, etc. ;
- (ii) check confiscations with Register of chalans received and computed ;
- (iii) check column 7 with chalan registers ;
- (iv) check column 8 with invoice ;
- (v) check column 9 with chalans ;
- (vi) check column 10 with contraband opium register.

757. XI.—Stock book of alkaloids—

- (i) check opening and closing balances, totals, etc;
- (ii) check issues with authority, and with indents passed by Agent or by Factory order.

758. XII.—Import register of leaf—

- (i) compare entries with the register of Leaf chalans received and computed.

759. XIII.—Stock book of leaf—

- (i) check opening and closing balances, additions and deductions;
- (ii) check entries on receipt side with the register of leaf chalans computed in the office;
- (iii) check issues with Indent Register;
- (iv) check any special expenditure with authority for the same.

760. XIV.—Import register of trash—

- (i) compare entries with the Register of Trash chalans received and computed.

761. XV.—Trash cleaning day-book—

- (i) check all calculations.

762. XVI.—Stock book of trash—

- (i) check opening and closing balances, additions and deductions;
- (ii) check receipts of uncleaned trash with the Register of Trash chalans received and computed;
- (iii) check column 5 and 6 with the trash-cleaning day-book;
- (iv) check receipts of cleaned trash with column 7 of uncleaned trash;
- (v) check issues with Trash Indent Register;
- (vi) check any special expenditure with authority for the same.

763. XVII.—Stock book of cups—

- (i) check opening and closing balances;
- (ii) check column 3 with counterfoil of receipts granted to cup contractors;
- (iii) check column 4 with register of old cups returned from cake godowns.
- (iv) check column 7 with Cup Indent Register.
- (v) check additions, deductions, totals, etc.

APPENDIX TO OPIUM MANUAL.

VOLUME IX.

(GHAZIPUR FACTORY.)

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“Appendix II”

1904, I

APPENDIX A.

* List of returns to be submitted in connection with the Ghazipur Opium Factory.

(a) Returns prescribed in the Manual.

DESCRIPTION OF RETURNS.	From whom.	To whom.	Date of submission.	Number of forms.	Number of reference.
1	3	3	4	5	6
<i>Daily.</i>					
Saltal report	Factory Superintendent	Opium Agent	During Sattai	64	335
Daily register of cakes packed	Ditto	Ditto	During packing	78	443
Stock and manufacturing account	Ditto	Ditto	During import and manufacture.	133	379 & 736
<i>Every fourth day.</i>					
Invoices, &c., provision opium despatches	Factory Superintendent	Opium Agent	During packing	86	506
Ditto	Opium Agent	Board of Revenue	Ditto	86	506
<i>Weekly.</i>					
Block and manufacturing account	Factory Superintendent	Opium Agent	1st 8th, 15th and 22nd of month.	133	736
<i>Monthly.</i>					
Application for funds	Factory Superintendent	Opium Agent	11th of the month.	...	18
First list of payments	Ditto	Ditto	Ditto	...	29
Second list of payments and cash account	Ditto	Ditto	1st of the month	...	29
Cash balance and expenditure report	Ditto	Ditto	Last working day of the month	...	30
Ditto	Ditto	Ditto	Ditto	...	30
Progress report of chest supply from Patna	Ditto	Accountant-General, Bengal	Ditto	...	33
Monthly statement of Akbari opium supplied	Ditto	Opium Agent	Close of each month	...	379
Ditto	Ditto	Ditto	15th of each month	...	345
Monthly statement of Akbari opium manufactured and supplied.	Opium Agent	Accountant-General	Ditto	...	345
Ditto	Factory Superintendent	Opium Agent	7th of each month	...	379
Ditto	Opium Agent	Board of Revenue	Ditto	...	345
				97	345

APPENDIX.

Monthly—concluded.						187	525
Statement showing articles purchased in India						...	525
Statement of receipt from auction sales						...	525
Quarterly.						96	526
Statement of Abkari issues						...	526
Annually.						...	527
Indent for leaf						...	527
Indent for trash						...	527
List of trash contractors						...	527
Verification of leaf and trash						...	527
Verification of opium of all descriptions						...	527
Disposal of confiscated opium						...	527
Indent for provision and Abkari tickets and tally sheets (Forms Nos. 68, 69, and 71.)						...	527
Report under Act XIII of 1857 on weights and scales						...	527
Ditto						...	527
Verification of stores						...	527
Estimate of European stores						...	527
Indent for European stores						...	527
Statement of expenditure on European stores						...	527
Plus and minus memorandum of dead stock						...	527
Acquisition for examination of machinery						...	527
Review of leaf and trash supply						...	527
Review of opium supply						...	527
Annual report and connected statements						...	527
Tables for annual transactions						...	527
Ditto						...	527
Opium Agent						...	527
Factory Superintendent						...	527
Opium Agent						...	527
Factory Superintendent						...	527
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Opium Agent						...	527
Factory Superintendent						...	527

(b) Returns which are not referred to in the Manual.

DESCRIPTION OF RETURNS.	From whom.	To whom.	Date of submission.	Number of form.	Number of rule for reference.
1	3	3	4	5	6
<i>Monthly.</i>					
Statement of credit notes issued	Factory Superintendent	Opium Agent	Close of month	...	...
Plus and minus memo. of service stamps	Ditto	Ditto	Ditto	...	...
<i>Half-yearly.</i>					
Fifty-five years' statement	Factory Superintendent	Opium Agent	15th January and 15th July	...	...
<i>Annually.</i>					
Indent for gunny chest covers	Factory Superintendent	Opium Agent	31st January	...	...
Ditto Grass cloth	Ditto	Ditto	31st	...	...
Indent on Stationery Department	Ditto	Ditto	7th August	...	...
Indent for A. G. B. and Manual of Forms	Ditto	Ditto	7th	...	...
Ditto empty provision chests, &c.	Ditto	Ditto	1st July	...	...
Ditto cloth and gunny opium bags	Ditto	Ditto	15th August	...	...
Ditto gunny trash bags	Ditto	Ditto	15th	...	...
Ditto oil from Ghazipur Jail	Ditto	Superintendent of Jail	1st April	...	...

APPENDIX B

(vide SEPARATE VOLUME X.)

APPENDIX C.

Forms prescribed by other departments and used in the Factory.

Serial num- ber of forms.	DESCRIPTION OF FORMS.	Reference to num- ber of rule in Manual.	Serial num- ber of forms.	DESCRIPTION OF FORMS.	Reference to num- ber of rule in Manual.
1	Forwarding docket of contra- band opium from District Officer.	531	3	Indent for European stores ...	533
2	Estimate of stores required from England.	533	4	Abstract of annual expendi- ture on stores for the year.	535

APPENDIX D.

Authorised scale of temporary establishment.

LEAF DEPARTMENT.

[SCALE No. 1.]

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Leaf picking	For weighing and sorting 800 maunds of leaf daily with 3 scales.	Dandidars	Weighing leaf	4	Ra. A. P. 6 0 0	About a month.
		Beldars	Weighing chalang and conducting all duties in connection with the test weighing of bags and baskets to 10 per cent. in each chalang.	30	0 2 0	
		"	Unloading wagons	24	0 2 0	
Care and storage of leaf.	One boy to every 100 maunds	Boys	Turning, picking and re-stacking stored leaf.	Average 100, but varies according to quantity on stock book.	0 1 3	All the year round.

LEAF DEPARTMENT.

[SCALE No. 2.]

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Leaf picking	Sorting 750 maunds of leaf daily.	Cake-makers	On sorting of leaf	250	Ra. A. P. 0 2 6	About a month.
		"	On damp leaf	10	0 2 6	

LEAF DEPARTMENT:

Leaf picking	For sorting 700 maunds of leaf daily.	Boys	...	Carrying leaf and laying it out for next day. Lifting loaded baskets during picking and laying out. Unloading baskets in leaf godowns during picking and downstate during the laying out of chalans. Lifting up and taking off loaded baskets for the parakkab sardars in the leaf godowns. On grubben and rotten leaf, also help in the laying out of chalans. On the collection of damp leaf, also help in the laying out of chalans. On the collection, weighing and carrying away of broken leaf. On the picking up of stray leaf and general cleaning up. On the collection, counting, tying up and carrying away of empty bags. On the collection and carrying away of empty baskets. On water supply ... On distribution and collection of tickets, rhaing of bell and Assante orderly work. On punkhas	83 6 14 4 4 9 6 5 5 11 2 2 1	Rs. A. P. 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 3 0 0 1 9	About a month.
Leaf picking	For sorting 700 maunds of leaf daily.	Boys	...	Carrying leaf and laying it out for next day. Lifting loaded baskets during picking and laying out. Unloading baskets in leaf godowns during picking and downstate during the laying out of chalans. Lifting up and taking off loaded baskets for the parakkab sardars in the leaf godowns. On grubben and rotten leaf, also help in the laying out of chalans. On the collection of damp leaf, also help in the laying out of chalans. On the collection, weighing and carrying away of broken leaf. On the picking up of stray leaf and general cleaning up. On the collection, counting, tying up and carrying away of empty bags. On the collection and carrying away of empty baskets. On water supply ... On distribution and collection of tickets, rhaing of bell and Assante orderly work. On punkhas	83 6 14 4 4 9 6 5 5 11 2 2 1	Rs. A. P. 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 1 9 0 3 0 0 1 9	About a month.

SCALE No. 4.]

Manufacture of cakes.	of	Manufacture of 750 maunds of opium daily into cakes with 28 scales and 4 test scales or bhagras.	Beldars	...	Weighing bhagras ...	...	...	Rs. A. P.
Ditto	...	Ditto	Boys	...	Check weighing bhagras ...	...	4	0 2 0
Ditto	...	Ditto	"	...	Asisting in weighing of bhagras ...	...	56	0 1 9
			"	...	Weighing and retying open bhagras in wetting shed.	...	4	0 1 9
			"	...	Asisting in check weighing of bhagras.	...	4	0 1 6
			"	...	Taking down leaf from racks for bhagras.	...	30	0
			Women	...	Carrying leaf from racks to scales for bhagras.	...	28	0 1 9

About 2 months while more-
 facture of cakes is in pri-
 gress.

LEAF DEPARTMENT.—*concluded.*

Scale No. 5.]

GENERAL HEAD	scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Miscellaneous	During working hours	Beldars	Attached to Assistant in charge of leaf.	1	Rs. A. P. 0 3 3	Throughout the year.
	Ditto ditto	Boys	Sorting leaf and weighing and helping cakenakers for repair of cakes during packing.	5	0 1 9	During packing operations only.
Stock-taking	Two scales weighing 500 maunds of leaf daily.	Boys " " Women	Weighing leaf Assisting at scales Carrying leaf from racks to scales Transferring leaf to godown after verification.	20 23 40	0 1 9 0 1 9 0 1 9 0 1 3	While stock-taking of leaf is in progress.
Weighing leaf for Patna.	Two scales weighing 300 maunds of leaf daily.	Beldars Tells Daudidars	Assisting to weigh and carrying baskets and cylinders. Sewing mouths of cylinders Weighing leaf	20 8 2	0 3 0 0 3 6 6 0 0 per mensem.	To the extent of requirements of the Patna Factory.

TRASH DEPARTMENT.

Scale No. 6.]

scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
For each scale working throughout the day.	Beldars Do. Do. Do. Do. Do. Do. Women Daudidars	Lifting weights Calling numbers Assisting at scales Carrying bags to scales Cutting open mouths of bags Emptying trash for examination Carrying trash into godown Cleaning trash of foreign matter Weighing trash	1 1 2 8 1 4 33 10 1	Rs. A. P. 0 3 0 0 3 0 0 3 0 0 3 0 0 3 0 0 3 0 0 3 0 0 1 At Rs. 6 s month.	About two months.

N. B.—When in full work four scales are worked.

Scale No. 7.]

Cleaning trash	Sixteen sieves and 3 thermantidotes turning out about 250 maunds of clean trash daily.	Beldars	Working 3 thermantidotes	33	Rs. A. P.	
					0 2 0	0 1 6
		Women	Working 16 sieves and carrying trash to codown.	16	0 1 3	0 1 3
		Do.	Working 16 sieves	100	0 1 3	0 1 3
		Do.	On small sieves	8	0 1 3	0 1 3
		Do.	Beating and cleaning coarse trash	16	0 1 3	0 1 3

About three months.

Scale No. 8.]

Packing provision opium.	Daily packing of 500 chests	Beldars	Laying out trash for sundrying, filling and emptying bags, and raking trash in sun.	30	Rs. A. P.	
					0 2 0	0 1 6
		Women	Sunning and carrying trash to packing room.	100	0 1 6	0 1 6
		Do.	Picking out sticks and foreign matter from trash in packing room.	12	0 1 0	0 1 0
		Do.	Cleaning trash returned from packing room.	20	0 1 0	0 1 0

About three months.

Scale No. 9.]

Miscellaneous	During working hours	Beldars	Care of trash godown	3	Rs. A. P.	
					0 2 0	0 1 3
		Boys	Cleaning drains and grounds round trash godown.	3	0 1 3	0 1 3
		Beldars	Examining trash godown for leaks	8	0 2 0	0 2 0
		Women	Sifting fine trash for manufacture and attai.	10	0 1 3	0 1 3

All the year round.

During rains only.
During manufacture and attai operations.

LEWA AND DUOI DEPARTMENTS.

Recd. No. 1C.]

GENERAL HEAD.	Scale of work.	Class of labour	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.	
Manufacture	Manufacture of 750 maunds of Opium and parakh of 600 jars and 600 bags.	Dandidar	...	...	Rs. A. P.	During manufacturing operations. During sattaï. Throughout the year. From November to January.
		Beldars	Weighing lewa		6 0 0
		Ditto	Mates for supervision		0 2 6
		Ditto	For lewa duties		0 3 3
		Boys	Ditto		0 2 0
		Do.	Ditto		0 1 6
		Beldar	For washing jars and bags		0 1 3
		Do.	Issuing lewa for sattaï		0 2 3
		Do.	Ditto		0 2 0
		Boys	Ditto		0 1 6
		Do.	General work		0 1 3
		Women	Collecting opium from baskets		0 1 3
	Ditto	ditto	...	...	0 1 3	
				2			
				2			
				16			
				20			
				10			
				80			
				8			
				4			
				15			
				6			

* If the full numbers of boys are not obtainable women are employed on the same pay.

IMPORT OF OPIUM.

Scale No. 11.]

					Rs. A. P.
Import of Opium...	Receiving, weighing and parakking of 1,000 jars daily.	Beldars	...	Weighing jars, carrying to parakh ground and removing to malkhana. Carrying from wagons to Import- shed (2 to every 100 jars or bags).	100
		Do.	...	With Opium Examiner at parakh in morning and later at examination of pots.	30
		Boys	...	With Import officer	4
		Do.	...	Weighing jars	1
		Dandidar	...		2
					per mensem.
					0 3 0
					0 3 0
					0 1 6
					0 1 8
					6 0 0
					6 0 0

SCALE No. 11a.]

Import ...	Transhipment of opium jars and bags.	Beldars	Helping to transfer opium from broken to new jars and care of tents, &c., at Bonares Cantonment.	Rs. A. P.	During continuance of import of opium.
Do.	Attached to Assistant in charge	3 1	

SCALE No. 12.]

MALKHANA.

GENERAL HEAD	Scale of work.	Class of labour.	Description of duty.	Number employed.	RATE OF PAY.		Approximate period of employment.
					Monthly.	Daily.	
Receipt ...	For receiving and emptying 1,800 jars daily.	Beldars Do.	Emptying jars ...	60	During continuance of import and manufacture, about two-and-a-half months.
...	...	Do.	Calling consistence ...	2	...	...
...	...	Women	Receiving jars from parakh yard	9	...	...
Scraping ...	For scraping 1,200 jars daily...	Beldars	Carrying empty jars ...	13	...	...
...	...	Ditto	Breaking jars ...	1	...	...
...	...	Ditto	Scraping jars ...	63	...	...
...	...	Ditto	Watchmen ...	9	...	...
...	...	Ditto	On water supply ...	3	...	...
...	...	Ditto	Checking consistence and carrying specimen to and from the laboratory.	2	...	...
...	...	Ditto	Tending to broken jars ...	2	...	...
...	...	Boys Do.	On parakhas ...	2	...	...
...	...	Do.	On latrines ...	4	...	...
Miscellaneous ...	While the malkhana is in full work.	Beldar	On water-supply ...	1	...	...

SCALE No. 13.]

MALKHANA.

Export and alliga-on.	For exporting daily 750 maunds into caking vats, 140 maunds for lewa and 50 maunds for abhari.	Dandidars Ditto Beldars Ditto Women	Weighing opium ... Ditto Exporting opium ... Treating opium ... Is-uing caking opium ... Carrying export opium ...	Rs. A. P.		During continuance of manufacture, about two months.
				Rs. A. P.	Rs. A. P.	
...	6 0 0
...	6 0 0	...	
...	0 2 0	
...	0 2 0	
...	0 2 0	

MANUFACTURE OF CAKES.

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APPENDIX.

[Vol.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Manufacture of cakes.	The manufacture of 750 maunds daily into cakes.	Beldars	See-thing each platter of opium at scales in caking room, also helping in the conveyance of cups.	41	Rs. A. P. 0 2 0	About two months.
		Boys	Lifting tagars to scales in caking vat room.	7	0 1 9	
		Do.	At scales	4	0 1 9	
		Do.	Carrying opium tagars, also helping to bring cups.	59	0 1 6	
		Do.	On distribution of opium, also helping to bring cups.	68	0 1 3	
		Do.	On distribution of lewa, also helping to bring cups.	50	0 1 6	

MANUFACTURE OF CAKES.

Manufacture of cakes.	The manufacture of 750 maunds daily into cakes.	Boys	Cakemakers' assistants one to each cakemaker in the first five sections.	344	Rs. A. P. 0 1 6	About two months.
		Do.		38	0 1 6	
		Do.	Cakemakers' assistants, one to every two cakemakers in the school.	10	0 1 0	

MANUFACTURE OF CAKES.

Manufacture of cakes.	The manufacture of 760 maunds daily into cakes.	Beldars	On the distribution and tearing of tickets, also helping in the cleaning up of sections.	6	0 2 0
Do.	Do.	...	Watchmen inside and outside of caking room, at tanks, lewakhana, school and sections.	10	0 2 0
Boys	Boys	...	Trashing cakes, carrying in the daily amount of trash, and laying out cups during manufacture, also arranging cups after manufacture for next day.	21	0 1 9
Do.	Do.	...	Distributing leaf and carrying in cups.	42	0 1 9
Do.	Do.	...	In charge of the numbered stands and moulds.	3	0 1 9
Do.	Do.	...	On seats and wooden blocks ...	3	0 1 9
Do.	Do.	...	On buckets, dhoikhana and the wooden tanks outside.	3	0 1 9
Do.	Do.	...	On wells as watchmen, and writing up barrows in the afternoon.	2	0 1 9
Do.	Do.	...	On collection of barrows and baskets.	2	0 1 9
Do.	Do.	...	On laying out of leaf in leaf-wetting shed.	11	0 1 9
Do.	Do.	...	Lifting loaded bags of leaf ...	6	0 1 9
Do.	Do.	...	On tickets in alligation room ...	3	0 1 9
Do.	Do.	...	With the Head Sirdar ...	1	0 1 9
Do.	Do.	...	On punthas for the Assistant Factory Superintendents and various Assistants.	7	0 1 9
Do.	Do.	...	On cleaning up of sections, (string, choor, tickets, boxes, &c).	10	0 1 6

About two months

SCALE No. 17.] MANUFACTURE OF CAKES—concluded.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Manufacture of cakes.	The manufacture of 750 maunds daily into cakes.	Boys ...	On the laying out of jettas, all employed as cakemakers' assistants during manufacture.	40	Rs. A. P. 0 1 0	About two months
			On the barrowing in of cakes, all employed as cakemakers' assistants during manufacture.	160	0 1 0	

SCALE No. 18.]

Manufacture of cakes.	The manufacture of 750 maunds daily into cakes.	Dandidars	On weighing of tagars containing 10 seers opium on 6 scales. On checking above on 2 scales ... Weighing opium for single cakes at 34 scales and one spare man. Weighing lewa at 25 scales and one spare man.	6 2 35 26	Rs. A. P. 0 3 0 0 3 0 0 3 0 0 2 6	About two months.
		Ditto	Checking weight of cakes as they pass out of caking room.	11	0 2 0	
		Beldars	Watching over cakes, leaf and cups	12	0 2 0	
		Scholars	Learning cake-making	28	4 8 0	
		Ditto	Ditto	28	per mensem. \$ 0 0	
		Cake-makers	Repairing cakes	10	per mensem. At 70 cakes a day or 7 annas a day.	
		Ditto	Cake-makers	344	On contract work	

Fire-brigade men, when working as cake-makers, are paid for Sundays and holidays at two annas for each day, these men having to remain at the Factory on those days.

STATE No. 19.]

Care of cakes ...	For turning and care of every 6,000 cakes, one-fourth of which are to be turned daily.	Boys ...	Turning, rubbing and care of cakes ...	Rs. A. P.	While cakes remain in a cake godown.
			{ 1 2 1	{ 0 1 0 0 1 3 0 1 6	

(i) The above strength includes coolies for watching at doors and cleaning godowns.
(ii) When cakes are being issued for packing, reductions of establishment will be made every second day at the rate of one coolie for every 1,500 cakes issued, the number of coolies maintained being proportionately as to rate of pay, and number of cakes remaining as laid down above.
(iii) When the number of coolies in a godown has been reduced until there are only 32 in the proportion of

As. P.	
8 on 1 0	
14 on 1 3	
8 on 1 6	

he reductions will cease if the godown issues at the rate of 5,000 cakes or more daily.
(iv) Should the issue of cakes fall below 5,000 daily, establishment will be further reduced to the following limits:—

Issuing 4,000 cakes daily 28 coolies	
" 3,000 " 24 "	{ In the proportions laid down.
" 2,000 " 20 "	
" 1,000 " 16 "	

No further reductions will be made until all the cakes in a godown are issued.
Boys are wanted some days prior to the reception of cakes by a godown for cleaning up and arranging racks.

SCALE No. 20.]

S A T T A L

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Num-ber em-ployed.	RATE OF PAY.		Approximate period of employment.
					Monthly.	Daily.	
Sattai and repairs of cakes.	For sattaiing 20,000 cakes daily at 100 cakes per man.	Cake-makers	Sattaiing cakes	25	Rs. A. P. 7 0 0	...	About two months.
		Ditto	"	25	6 8 0	...	
		Ditto	"	20	6 0 0	...	
		Ditto	"	50	5 8 0	...	
		Ditto	"	50	5 0 0	...	
		Ditto	"	20	4 8 0	...	
	30 cakes per man, 21,000 cakes daily.	Scholars	"	8	5 0 0	...	
		Cake-makers	Examining cakes	8	5 0 0	...	

SCALE No. 21.]

S A T T A I.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	RATE OF PAY.		Approximate period of employment.
					Monthly.	Daily.	
Miscellaneous ..	1 for every 3 cake-makers For making 21,000 cakes daily	Boys ..	Assisting cake makers	110	Rs. A. P.	0 1 9	About two months until all cakes are satisfied and re-paired.
		Bandidars	Weighting lewa	13	..	0 3 6	
		Boys ..	Weighting and carrying leaf	10	..	0 1 9	
		Do.	Picking up waste leaf	3	..	0 1 9	
		Do.	Serving out sattai leaf and bringing trash.	6	..	0 1 9	
		Do.	Serving out moulds	1	..	0 1 9	
		Do.	Serving chandi leaf	2	..	0 1 9	
		Do.	In charge of barrows	4	..	0 1 9	
		Do.	Watchmen	2	..	0 1 9	
		Do.	Bell-ringer	1	..	0 1 9	
		Do.	Cook's mate	1	..	0 1 9	
		Do.	Orderly	1	..	0 1 9	
		Do.	On punkhas	4	..	0 1 9	

SCALE No. 21A.]

S A T T A I.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Daily rate of pay.	Approximate period of employment.
Sattai and repair of cakes.	Sorting and tying up of bundles of chandi leaf.	Cake-makers Boys	Picking leaf and making up 15 bundles each daily. Bringing down leaf and assisting cake-makers.	100 45	Rs. A. P. 0 3 6 0 1 9	About 10 days.

SCALE No. 22.]

DAMMERING OF CHESTS.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	RATE OF PAY.		Approximate period of employment.
					Monthly.	Daily.	
Dammering of chests.	Dammering of 500 chests daily during first and second dammering of provision chests and of shkari chests throughout the year.	Beldars	Care of pitch furnace, dammering ..	3	Rs. A. P.	0 3 9	All the year round.
		Do	Of shkari chests and the first and second dammering of provision chests.	1	..	0 2 3	

SCALE No. 23.]

Damming cheats.	Damming of 500 cheats daily during first damming of provision cheat.	Beldars	Assistant dammers	11	Re. A. P. 0 3 3
		Do.	Carrying dammer	19	0 2 0
		Do.	Carrying chests	70	0 3 0
		Women	Shifting dammer spilt on floor	2	0 1 3
		Carpenters	Filling joins with chips and doing petty repairs.	4	0 4 0
				2	0 3 6
				2	0 3 0

From 1st August till comple-
tion of damming in Oc-
tober.

PACKING

SCALE No. 24.]

Packing at scales	For packing 20,000 cakes at four scales.	Beldars	Barrowing cakes	40	Re. A. P. 0 2 0
		Do.	Placing cakes on scales	4	0 2 0
		Do.	Lifting manud weight and passing cakes to chests.	4	0 2 0
		Do.	Placing empty chests at scales and carrying empty chests in after- noon.	20	0 3 0
		Boys	Rolling up cakes at scales	4	0 1 9
		Do.	Taking cakes off scales	4	0 1 9
		Do.	Passing cakes to chests	16	0 1 9
		Do.	Bringing trash for lower layer to scales.	4	0 1 9
		Do.	Putting trash and compartments in empty chests and carrying empty chests in afternoon.	4	0 1 9
		Do.	Placing ticket in chests and checking Hind numbers on empty chests in afternoon.	4	0 1 9
		Do.	Placing compartments and mats above lower layer at scales.	4	0 1 9
		Do.	Bringing compartments from leaf compound and helping at scales in afternoon.	2	0 1 9

About 3 months, while pack-
ing operations last.

SCALE No. 25.]

PACKING.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Daily rate of pay.	Approximate period of employment.
Packing of upper layer of chests.	For packing 600 chests	Beldars	Arranging lids in packing-room and placing lids on chests.	5	Rs. A. P. 0 2 0	About 2 months, while packing operations last.
		Do.	Stamping numbers on gunny	2	0 3 0	
		Do.	Assisting stamper	2	0 2 0	
		Do.	Assisting saviors to examine damaged chests.	5	0 3 0	
		Do.	Carrying chests from scales into packing-room (25), moving chests in packing-room for carpenters (8), and carrying lids in afternoon to packing-room.	36	0 3 0	
		Boys	Carrying trash to chests and heaping up trash at scales in afternoon.	18	0 1 0	
		Do.	Placing barious under chests	2	0 1 0	
		Do.	Collecting chips during packing	3	0 1 9	

SCALE No. 26.]

PACKING.

Packing operations.	Packing of 500 chests daily	Cake-makers	Examining lids	2	Rs. A. P.	About 2 months, while packing operations last.
		Ditto	" mats	1	.....
		Ditto	" compartments	2	.....
		Ditto	" chests	1	.....
		Ditto	Packing cakes at scales	4	.....
		Ditto	At the test scale	2	.....
		Ditto	Examining nailed chests in packing-room.	2	.....
		Ditto	Examining damaged chests	4	.....
		Ditto	Checking loaded barrows	3	.....
		Ditto	Talking numbers on gunny covers	3	.....
			Assisting in the supervision of loading	3	At initial rate of pay.
		Ditto	Packing upper layer of chests	22	.....
		Ditto	On repairs of cakes	7	.....
		Ditto	Supernumerary	1	.....
		Dandidars	Weighing at scales and writing Hindi numbers on empty chests.	4	0 0 0	
		Boys	Assisting repairers	4	.....
					0 1 9	

PACKING.

Packing operations	Packing of 500 chests daily	Beldars	...	Sunning chests ...	...	70	Rs. A. P.
		Do.	...	Sunning lids	...	1	0 2 0
		Do.	...	Pulling barmas with carpenters	...	19	0 2 0
		Do.	...	Carrying dammer	...	8	0 2 0
		Do.	...	Dammering chests	...	2	0 2 3
		Women	...	Sifting dammer ...	...		0 1 3

About two months, while packing operations last.

PACKING.

[illegible]

SCALE No. 28a.]

PACKING.

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Daily rate of pay.	Approximate period of employment.
Packing ...	Supervision of chests in transit	Teli (cake-maker).	Examining chests in transit and sewing covers if necessary.	1	Rs. A. P. At Sattal rate of pay plus 0 1 3 per diem allowance. At 4 annas per diem plus 0 1 3 per diem allowance. 0 2 0 0 3 0	
		Carpenter ...	Petty repairs to chests ...	1		
		Beldar Do. ...	Attached to Assistant Watching tents, etc. ...	1 1		

SCALE No. 29.]

ABKARI DEPARTMENT.

Manufacture of abkari opium.	Drying up to 600 trays daily and manufacturing up to 300 chests a month.	Beldars Do. Carpenters Dandidar ...	Working as mates and on press, also on trays. Working up opium in trays ... Nailing chests and repairing trays ... Weighing opium ...	50 100 2 1	Rs. A. P. 0 3 6 0 2 0 0 4 0 6 0 0 per mensem.	0 Throughout the year.
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SCALE No. 30.]

LABORATORY.

Manufacture of alkaloids and assay of opium.	During working hours and overtime. During working hours	Weighers Beldars Do. Do. Do. Boys	Weighing specimens and supervision On alkaloids ... Sorting of filter paper ... On assay of opium ... On parath ...	1 4 13 27 10 50 4	Rs. A. P. 0 4 0 0 3 6 0 3 0 0 2 6 0 2 0 0 3 0 0 1 6	All the year round. Whenever necessary. During receipt of opium.
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STORE DEPARTMENT.

SCALE No. 31.]

Care of stores ...	Employed during working hours.	Behdars	...	Splitting wood and supplying coal and wood to engine and boilers. ...	7	Rs. A. P.	Throughout the year.
		Do.	...	Assisting in store godown ...	4	0 3 0	Ditto.
		Do.	...	Assistant turnkeys ...	4	0 2 6	Ditto.
		Do.	...	In charge of compartments ...	1	0 3 0	Ditto.
		Do.	...	Ditto bamboo mats ...	2	0 3 0	Ditto.
		Do.	...	Khalassi on lamps and assisting in store godown.	1	0 3 0	Ditto.
		Do.	...	Khalassi on tents and assisting in store godown.	1	0 3 0	Ditto.
		Mochi	...	Repairing and making leather work	1	0 4 0	Ditto.
		Tailor	...	Ditto cloth work ...	1	0 4 0	Ditto.
		Tellis	...	Ditto gunny-bags ...	2	0 3 6	Ditto.

STORE DEPARTMENT.

SCALE No. 32.]

CASUAL ESTABLISHMENT.

Care of stores	...	Employed during working hours.	Behdars	...	Carrying and stacking chests from Patna.	30	Rs. A. P.	1st July to 31st March.
			Do.	...	Counting and examining gunny covers.	10	0 2 6	From 2 to 3 months.
			Do.	...	Unloading and removing steam coal	10	0 2 0	Fifteen days at each period.
			Do.	...	Weighting, scraping and emptying coal pitch.	10	0 3 6	A week.
			Do.	...	Assisting in stock-taking	30	0 3 6	Three months.
		Women	Tailors	...	Cleaning weights for adjustment	4	0 1 3	Fifteen days.
		Assens	Tailors	...	Repairing tents	5	6 4 0	Two months.
			Tell	...	Ditto	5	0 4 0	Idem.
				...	Ditto	2	0 3 6	Ditto

CUP DEPARTMENT.

SCALE No. 33.]

GENERAL HEAD.	Scale of work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Approximate period of employment.
Receipt and issue of cups.	Receiving about 20,000 cups daily, and issuing the requirements of cake-godowns.	Beldars	Examining and receiving contractors' cups and issuing cups to cake-godowns.	10	Ra. A. P. 0 3 0	Almost throughout the year. For a short period in April when there are neither issues nor receipts the number is reduced to 2.
		Do.	Examining and receiving cups from cake-godowns.	3	0 3 0	During packing operations only.

WORKSHOPS.

SCALE No. 34.]

Engineer's establishment.	Employed during working hours.	Blacksmiths	Construction and repairs	Rate of pay.
		Ditto	...	0 4 6
		Carpenters	...	0 4 0
		Ditto	...	0 4 6
		Tinsmith	...	0 4 0
		Ditto	...	0 4 6
		Ditto	...	0 4 0
		Beldars	...	0 3 0
		Assisting above	...	0 3 0

Throughout the year.

ENGINES, PUMPS AND BOAT.

SCALE No. 35.]

Engineer's establishment.	Throughout the day, if necessary.	Khalassis	In charge of fire engines and pumping engine.	Rate of pay.
		Beldars	Assisting in working and control of boilers, engines, &c.	0 3 6
		Ditto	...	0 3 0
		Ditto	...	0 3 6
		Mechanics	...	0 3 3
		Mallahs	...	0 4 0
		Ditto	...	0 3 0
		Boy	...	0 2 6
		Orderly	...	0 1 6

Throughout the year.

* These mallahs assist in the work of engines when not employed on the boat.

MISCELLANEOUS DEPARTMENTS.

SCALE No. 36.]

Miscellaneous	Ordinary daily duties		Miscellaneous Factory duties		Rs. A. P.
Do.	Do.	Beldars	With ministering officer	15	0 3 0
Do.	Do.	Do.	With Assistant Factory Superintendent.	1	0 3 0
Do.	Do.	Do.	Care of caking-room	2	0 3 0
Boys	Do.	Do.	Servicing drinking water	3	0 2 0
Do.	Do.	Do.	ditto	1	0 1 6
Do.	Do.	Do.	With head sirdar	1	0 1 9
Do.	Do.	Do.	On Laboratory wall	1	0 1 9
Do.	Do.	Do.	Attached to Assistant's recreation room	1	0 4 0
Do.	Do.	Do.	ditto	1	0 3 0
Do.	Do.	Do.	Sweeping godowns	12	0 1 9
Do.	Do.	Do.	ditto	4	0 1 6
Do.	Do.	Do.	ditto	4	0 1 6
Beldar	Do.	Do.	Mate over barrow boys	1	0 3 0
Do.	Do.	Do.	Servicing drinking water	3	0 3 0
Boys	Do.	Do.	ditto	1	0 1 6
Do.	Do.	Do.	Errand boys	4	0 1 3

Throughout the year.

During manufacture, setting and packing.
 During manufacture only.
 These are only employed with Assistants when they have no departments under them.

*This mate is also employed at leaf picking, his services therefore are required throughout the year.

MISCELLANEOUS DEPARTMENTS.

SCALE No. 37.]

Miscellaneous	Ordinary daily duties			Rs. A. P.
Do.	Do.	Beldars	Care of Factory bullocks	0 2 6
Do.	Do.	Do.	Care of Dispensary	0 3 0
Do.	Do.	Do.	Head cardoner, Factory garden	0 2 0
Do.	Do.	Do.	Assisting in Factory garden	0 2 3
Do.	Do.	Do.	ditto	0 2 0
Rhists	Do.	Do.	Assistant's quarters garden	0 2 0
Sweepers	Do.	Do.	Assisting permanent bhists	0 2 0
Do.	Do.	Do.	Sweeping Factory, &c.	0 3 0
Women	Do.	Do.	ditto	0 3 6
			Searchline women working in inner enclosure and passing out of main gate.	0 2 0
			For weighing shed and parakh yard and assisting in general Factory duties.	0 3 6
				0 3 6

Throughout the year.

During continuance of parcel and manufacture.

MISCELLANEOUS DEPARTMENTS—concluded.

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APPENDIX.

[VOL.

GENERAL HEAD.	Specified work.	Class of labour.	Description of duty.	Number employed.	Rate of pay.	Rate of pay.	Approximate period of employment.
Miscellaneous	Ordinary daily duties	Sweeper	Assisting generally owing to extra work entailed by satial and packing operations.	1	R. A. P. 0 2 6		During continuance of satial and packing operations. During import of opium and manufacture only. Ditto. Throughout the year.
		Bhisti	Supplying water for tattles in malikana and caking-room and assisting generally.	1	0 2 6		
		Do.	To supply water for wetting bags	3	0 2 6		
		Pointman	Working Factory points	1	0 2 6		

SCALE No. 38.]

PRESS DEPARTMENT.

Office	During usual office hours	Pressman</
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SCALE No. 39.]

IMPORT AND MANUFACTURE.

Office	During usual office hours	Head pressman	Composing type, writing copies for litho press, and general care of press department	1	Rs. A. P. 25 0 0	Throughout the year.
		Muharrir	Weightment of chalan leaf and trash	4	10 0 0	During import and manufacturing operations.
		Ditto	Weightment of chalan opium	2	12 0 0	
		Ditto	Checking and arranging chalan opium	2	16 0 0	
		Ditto	Ditto	6	10 0 0	
		Clerks	Assay-teller in Laboratory	1	20 0 0	
		Do.	Ditto	1	16 0 0	
		Do.	Ditto	2	12 0 0	
		Do.	Factory Superintendent's office	3	12 0 0	
		Do.	Caking department	4	15 0 0	
		Do.	Ditto	1	12 0 0	
		Printers	Factory Superintendent's office	2	7 0 0	During packing operations.
		Perforator	Ditto	1	6 0 0	
		Clerk	Ditto	1	20 0 0	
		Printer	Ditto	1	7 0 0	
		Peon	Ringling ball at packing	1	5 0 0	

APPENDIX A.

Forwarding docket of contraband opium from District Officer.

<p>• •</p> <p>DISTRICT</p> <p>No. , dated</p> <p>To</p> <p>OPIMUM EXAMINER, GHAZIPUR.</p> <p>FORWARDS suspected opium declared by the Civil Surgeon to be fit for use.</p> <p>Weight of parcel</p> <p>Weight of contents</p> <p>Number of seals</p> <p>Signature.</p>	<p>B.</p> <p>DISTRICT</p> <p>No. , dated</p> <p>To</p> <p>OPIMUM EXAMINER, GHAZIPUR.</p> <p>FORWARDS in separate parcel confiscated opium declared by the Civil Surgeon to be fit for use.</p> <p>Weight of parcel</p> <p>Weight of contents</p> <p>Seal</p> <p>Number of seal on parcel</p> <p>Signature.</p>	<p>O</p> <p>ON HIS MAJESTY'S SERVICE.</p> <p>DISTRICT</p> <p>No. , dated</p> <p>By parcel post, registered.</p> <p>To</p> <p>OPIMUM EXAMINER, GHAZIPUR.</p> <p>Collector.</p>
<p>To be used by the Magistrate for record.</p>	<p>To be sent in separate cover by post to the Opium Examiner, Ghazipur.</p>	<p>To be affixed to the parcel, which should be post-paid registered, and franked "On His Majesty's Service."</p>

FOREIGN FORM No. 2.]

APPENDIX B.

(See paragraph 20 of the Resolution of the Government of India in the Department of Finance and Commerce, No. 185, dated 10th January 1883)

Estimate of the probable quantity and value of stores required from England for the use of Benares Opium Agency during the official year.

[The cost of the Stores is chargeable to the Imperial head Opium].

1	2						3				
Description or class of Stores.	ACTUAL EXPENDITURE FOR THREE YEARS.						PROBABLE ESTIMATED REQUIREMENT FOR				
							Quantity.	Rate.	A		
	£	s.	d.	£	s.	d.			£	s.	d.

FOREIGN FORM No. 3.

APPENDIX C.

OPIUM DEPARTMENT.

INDENT No. , dated 19 . Tele graphic Code Word

Revenues and Imperial head of account or grant to which
cost is chargeable "Opium Imperial."

Date when the stores are required to reach India

Part to which the stores are to be shipped CALCUTTA.

(The necessary certificates, if any as required by existing Regulations,
to be inserted below.

[illegible]

APPENDIX E.

ADULTERATIONS OF OPIUM AND THEIR DETECTION.

BEFORE dealing with the impurities of opium and the tests employed for detecting them, it will be necessary here to describe concisely the characteristics of pure opium and pasewa.

Opium is a plastic, viscid, more or less solid mass of a brownish colour, varying in shade from fawn to dark mahogany. It adheres to the fingers, and draws out to a moderate extent, breaking with a short, ragged fracture. When rubbed into a thin film between two slips of glass or on a white plate, the colour is a chestnut brown of more or less intensity. Its texture appears granular unless it has been over-manipulated, or contains in its composition an excess of pasewa. When rubbed down on an even surface it presents a perfectly smooth and homogeneous appearance. The aroma of opium is peculiar and characteristic. In well-prepared fresh drug the aroma is decidedly fruity, but it varies with age, and even with the soil and climate in which it is grown.

Its taste is bitter. When manipulated under water, the drug adheres moderately to the fingers at first, curdy flakes soon subside, leaving the supernatant liquor of a brownish yellow colour varying in shade in proportion to the amount of opium in a given quantity of water.

If to a portion of this clear fluid a few drops of a solution of diacetate of lead be added, a dirty grey precipitate nearly equal in bulk to the amount of fluid is produced consisting of resin, colouring matter and meconate of lead.

Ammonia throws down a similar and almost equally abundant precipitate, composed of resin and the alkaloids, which on exposure to the air speedily assumes a black colour. If a few drops of strong sulphuric acid are added, the whole will immediately re-dissolve; if the precipitate be filtered off, and dissolved in a small portion of dilute sulphuric acid the solution becomes a beautiful transparent ruby red colour.

Tincture of iodine causes an orange red precipitate which redissolves after a time; this is formed of compounds of iodine with narcotine and codeia. Ferric chloride strikes a deep cherry red colour forming a soluble meconate of iron.

A small portion thinly spread on a glass slip and examined by transmitted light with a magnifying power of 200 diameters should present a homogeneous appearance interrupted only by the presence of prismatic crystals.

A frequently recurring case, wherein good opium presents an abnormal appearance, is that of opium through which light coloured roundish particles resembling fig seeds are scattered. If a small portion of this seed-like matter be picked out, pressed between two slips of glass and examined by transmitted light, it will appear as a flattened creamy opalescent mass surrounded by any opium which may have been taken up with it; if it be now placed under a magnifying power of 200 diameters, the creamy mass will be seen to be made up of a multitude of needle-like crystals. These seed-like bodies have all the appearance of an adulteration but if they present the above physical characteristics and strike a deep cherry red colour with chloride of iron, the opium may, so far as they are concerned, be taken as pure.

Pasewa, when fresh, is a brownish, shining, viscid liquid, of strong opiate smell and acrid taste. When stored for a time, it gains in density by evaporation, and becomes brownish black in colour, resembling tar. It is formed under peculiar atmospheric conditions and is collected in combination with opium, from which it can be separated by carefully manipulating and draining the drug; in fact the slight fermentative process which opium undergoes after collection, of itself assists in this separation by the pasewa being forced into thin streams and pools about the vessels which it is stored. All that is needed is to direct and attract these streams of

Pasewa.

pasewa away from the opium. It happens either from ignorance of the mode of treating the raw drug or from carelessness or design, that the pasewa is frequently left with the opium, and in the process of preparing the drug for weightments, the opium and the pasewa are intimately mixed together. Opium so treated loses in value from a departmental standard; that containing much pasewa is generally dirty, as from the adhesive qualities of the pasewa, dust and impurities adhere to its surface and get mixed up in it, and the pasewa serves, besides, as a very convenient cover for adulterations.

Opium short of purity standard.

Opium that falls short of the standard of purity required by the department may be conveniently classified as deteriorated opium and adulterated opium.

Deteriorated opium.

Deteriorated opium requires experience, but no chemical tests, for its detection. It is of four kinds:—

- (i) Opium with an abnormal admixture of pasewa.
- (ii) Opium mixed with water.
- (iii) Opium deprived of some of its valuable constituents by washing.
- (iv) Opium mixed with the fresh or inspissated washings of vessels used for its storage.

Opium with an abnormal admixture of pasewa is known as "pasewa-amez."

Deterioration by admixture with pasewa.

As a matter of fact a large percentage of the opium of both Agencies, and particularly of the Benares Agency, contains a certain small proportion of pasewa, which it has not been found possible to separate. And as it is not possible by any mechanical means to gauge the percentage of pasewa present in any given sample of the drug, no hard and fast rule can be laid down for the classifying of "pasewa amez," which is left therefore to the experience and discrimination of the classifying officer. As a rule, opium which has its grain intact, and retains its characteristic colour ranging from a chestnut to a dark mahogany (other conditions of purity being favourable), may safely be accepted as good, even though it shows streaks or small pools of pasewa on the edges or in the centre of the mass; on the other hand, when by intimate mixing the granular texture of the drug has been destroyed, its dull wax-like appearance changed to one more or less smooth and shiny, where it has become glutinous, and its colour appears more or less brownish black, then there exist all the appearances of a large percentage of pasewa, and the drug is considered to have deteriorated from the departmental standard.

Opium is sometimes found with an admixture of water. This may be

Deterioration by admixture with water.

intentional with a view to increase weight, or it may be due to accident or ignorance at the time of collection under heavy dew or rain. The effect of adding water to opium frequently, or to any great extent, is the destruction of its natural colour and grain giving it a pasty, glutinous appearance, and after some time a peculiar dark colour and acescent flavour; when large quantities in this state are kept shut up in close vessels, fermentation generally ensues and the drug undergoes material change for the worse, seldom yielding the full proportion of narcotic principle which it should possess.

Opium is sometimes to a small extent accidentally deteriorated by washing

Deterioration by washing.

when rain falls during the collection of the drug. More often, however, it is washed with the intention of obtaining a partial solution of the important alkaloids and other soluble matters which by subsequent drying forms a valuable extract possessing powerful narcotic properties, while the residue is inspissated to the usual degree of consistence and delivered as genuine. Such opium will be found to consist mostly of resin and caoutchouc; it will not easily rub down on a plate, and in bad cases will not rub down at all; it will resemble soft India-rubber when pulled out, the natural colour of the opium will be partly destroyed, and the aroma will be foreign and acescent. When opium is suspected of having been tampered with in this manner, a small portion may be carefully squeezed in cold water between the fingers, when it will be seen to impart a very trifling colour to the water, and the marc will be seen to consist of a tough insoluble mass made up mostly of caoutchouc and resin.

Deterioration with the washings of vessels which have held opium is very common among cultivators, and is due largely to ignorance. In order to avoid losing even the smallest part of his produce, a cultivator will wash the plates that he has used for preparing the drug before delivery. These washings which contain a large percentage of dust, of dirt from the fingers and the scrapings of the earthenware pot, are sometimes mixed in their fresh state with the opium, giving it a black streaky look; a portion of these streaks taken up on the finger and rubbed down on a white plate will have a greyish black appearance as distinguished from the chestnut colour of opium. More often the washings are collected and inspissated, and then broken up into lumps or fine powder and intimately mixed with the opium before delivery. In such cases the deterioration is easily detected, as the washings will not amalgamate with the drug, and can be seen in small dark lumps or grains scattered about the parcel. These have only to be picked out and examined between two glass slips or rubbed on a white plate to disclose their true character.

Adulterated, as distinguished from deteriorated, opium, is opium with which has been amalgamated a foreign substance. Such opium is generally distinguishable by its departure from some of the known characteristics of pure opium with regard to fracture, grain, ductility, smell or taste. In most cases an impurity is apparent by its own peculiar characteristics, but often it is necessary to ascertain the exact nature of the adulterant by chemical tests, or even with the microscope.

Before proceeding further, it is necessary to explain that the examination of impure opium for departmental purposes must be conducted by a series of tests calculated to reveal directly the presence of specific foreign substances, and not by a chemical analysis. A chemical analysis is an expensive process which can only be undertaken by a trained chemist; great care and nicety are necessary for its correct performance, and some days are required for its completion; conditions which are adverse to the rapid appraisalment of the drug required of District Officers. Moreover, chemical analysis reveals adulterations indirectly, as a specimen which on such analysis appears to be adulterated only to an inconsiderable extent, may yet contain substances of such a nature as to render it wholly unfit for departmental use; and this information can more readily, and with greater certainty, be obtained by chemical tests.

The common adulterants of opium.

The substances usually employed for adulterating opium are:—

- (a) Those of a soluble nature which are found to be in such intimate admixture that they can, as a rule, only be chemically separated. Under this head are:—
 - (i) Vegetable matter containing gum and mucilage.
 - (ii) Vegetable astringent extracts, such as catechu, etc.
 - (iii) The juice of the several "milk-" yielding trees.
 - (iv) Saccharine matter, such as treacle, raw sugar, etc.
 - (v) Other foreign vegetable extracts.
- (b) Those of an insoluble character which are for the most part separable by physical analysis, though a chemical test is mainly relied on in the case of the first-named. Under this division come:—
 - (i) Farinaceous substances such as flour, soojee, suttoo and the like; as well as the ground-up pulp of the potato, yam, etc.
 - (ii) Poppy seed and petals and other green vegetable substances and pounded tobacco leaf.
 - (iii) Vegetable oils and ghee.
 - (iv) Charcoal, soot, earthy matter, brick-dust, sajjii-matti, and other such insoluble substances.
 - (v) Soapstone.

The following method is the one employed for examining a sample of opium suspected of being impure. About an ounce (or half this quantity in the districts where the examination is less elaborate) of the suspected drug should be taken and placed in a copper saucepan, and to this about three fluid ounces (by measure) of distilled, condensed or rain water should be added; the saucepan should then be placed on a charcoal fire, and the contents stirred constantly with a glass rod until the whole of the drug has been thoroughly broken up, and until the mixture boils. After ebullition has continued for three or four minutes, the saucepan should be removed, and the contents at once slowly poured into a filter paper placed in a funnel leading into a glass beaker. Attention should now be directed to—

- (a) any residue that may be left in the saucepan;
- (b) the rate of filtration of the decoction;
- (c) the colour of the filtrate;
- (d) the chemical reaction of the filtrate;
- (e) the residue left on the filter paper.

If the specimen contains any insoluble impurities of greater specific gravity than opium, such as sand, heavy mud, chips of pot., etc., these will be left as a residue in the saucepan. When very fine and light mud has been employed, a portion of it only may remain behind, and the remainder will run off along with the rest of the contents of the saucepan.

The rapidity with which the fluid portion runs through the filter will afford characters by which we can recognise certain adulterations. If the opium be good and well prepared, and the filter be of ordinary thickness, the fluid will run through rapidly and completely; if it contain much pasewa, it will not filter so rapidly, especially the last portion of fluid. If the opium contain much gum, filtration will likewise be slow, and if it contain farinaceous matter, it will be still slower; in fact, if it contain flour, sooji or ground gram (all frequent articles of adulteration) in any considerable quantity, not a drop of fluid will pass through the filter, and the whole will form a tremulous paste on the filter, from which no fluid will separate. The admixture of about one-seventh of its weight of flour with opium will render filtration impossible.

When good opium is treated in the manner described above, the filtrate should be of the deepest mahogany brown colour; in fact, precisely similar to an ordinary infusion of coffee. If the drug contain much pasewa, this will impart a deeper shade to the solution; and if, on the other hand, the opium be the produce of highland which has been recently brought under poppy cultivation, the solution will be several shades lighter, corresponding to the lighter colour of such drug. Deviation from the above colour will denote adulterations. A filtrate of a brick red colour may lead to the detection of a substance containing tannin by the help of the proper test, or again a rose coloured filtrate may be due to the presence of some vegetable colouring matter the precise nature of which it will be difficult to ascertain by chemical tests.

The examination of the filtrate should next be proceeded with by the various requirements for the chemical tests, for which the following chemical requisites should always be ready at hand:—

- (i) For the detection of starch, a bottle of iodine solution, and a bottle of dilute nitric acid. The iodine test solution used is that known in the department as "Sheppard's solution." It is prepared by dissolving 5 grains of potassic iodide in about 4 fluid ounces of distilled water, and then adding to it about one grain of iodine. This solution will have the colour of pale sherry and will possess the advantage over an ordinary solution of iodine and water in not readily parting with its iodine when the weather becomes warm. When, however, the bottle containing the solution is subjected to extreme heat by being taken into the sun, as it frequently happens in district parakhing, the iodine, even in this solution will volatilise, and the solution become gradually colourless. To guard

against this, District Officers should always keep a stock bottle and an expense or drop bottle, the latter being replenished, as it is necessary, from the stock bottle. It should be pointed out here that it is not the potassic iodide but the iodine in the solution which gives the characteristic reaction with starch, the potassic iodide being present merely to give stability to the iodine in the solution. If, however, the solution has by careless exposure to the sun parted with its iodine and become colourless and a fresh supply is not obtainable, it can still be used, provided always dilute nitric acid be used with it, as explained further on, so as to break up chemically the iodide of potassium in the solution, and thus to set free the iodine contained in it.

- (ii) For the detection of gummy matter, a bottle of alcohol or rectified spirits of wine.
- (iii) For the detection of raw cane sugar, some dilute sulphuric acid, a bottle of potassic hydrate solution, and a bottle of Fehling's solution. This solution, known as the copper test, is supplied in its prepared state from the Factory. It is prepared thus—34.64 grams of pure crystallised cupric sulphate, dried between filter papers, are dissolved in about 200 c.c. of distilled water. One hundred and seventy-three grams of crystallised sodic potassic tartrate are dissolved in 480 c.c. of a solution of sodic hydrate of sp. gr. 1.14. The former solution is added to the latter and made up to 1000 c.c. The solution must be kept in a well-stoppered bottle and in the dark.

The first step in examination is to apply the starch test, which should be done in the following manner:—Pour a few drops of the

Test for starch.

filtrate on a white earthenware plate, and spread it out with the finger or a glass rod into a thin film, then from the drop bottle of the iodine solution allow 2 or 3 drops to fall on the filtrate spread out on the plate. The proper reaction from good opium will be an orange coloured precipitate.

If the reagent produces a blue or a green colour, it indicates that some substance containing starch is present; when the colour is green, it indicates a feeble adulteration; when it is blue, a stronger one. If the test gives a faint purple or greenish tinge round the edge, where the iodine solution has dropped, or if the reaction, though not green or blue, is somewhat suspicious in appearance, and it is necessary that the presence or absence of starch should be placed beyond a doubt, then drop from another drop bottle 2 or 3 drops of dilute nitric acid on the solution on the plate. The nitric acid will have the effect of breaking up the iodide of potassium contained in the reagent used, and if there is any starch in the filtrate under examination, the liberated iodine will at once combine with it, forming an iodate of starch, and placing its presence beyond a doubt by the blue or green colour produced. This is a very delicate test, and will reveal the presence of small quantities of starch where free iodine alone in solution has failed to reveal it.

This test embraces a very wide range of adulterating substances, namely, all articles containing starch and including flour, soojee, sago, arrowroot, rice, potatoes, yam, gram and a great variety of seeds and roots. If the specimen chance to be very largely adulterated with starchy matter, and no fluid will pass through the filter, the test described above should be applied to a small portion of the pasty matter in the filter taken out with the end of a glass rod.

It may happen in rare instances that with every indication of the presence of starchy matter, by the refusal of the decoction to filter and the proved absence of gum, the iodine test will not give the characteristic reaction. In such cases it must be presumed that the starch has been subjected to the long continued action of heat, and has been altered to dextrine and sugar, in which condition the iodine test would fail. In such cases the microscope should be used, and it will be found to reveal the existence of starch cells in the specimen under examination.

If gum be suspected in a parcel of opium, take a test tube and fill it half full of rectified spirits of wine, then drop into it a few drops

Test for gum.

of the filtrate under examination. If gum be present there will be a more or less copious white flakey or lumpy precipitate which will gradually subside into a white mass at the bottom of the tube. This test requires

to be used with considerable precaution, and to avoid arriving at false conclusions the decoction should not be boiled longer than has been recommended above, as opium contains naturally a portion of gum which can only be separated by spirits of wine by boiling down the decoction to a small bulk. In certain cases, however, moderate precipitates of gum are occasioned when adulteration certainly does not exist, owing to the proportions of the several constituents of opium in different samples varying according to peculiarities of soil, season, etc. This slight reaction is also common when a large quantity of pasewa is present in the drug, though it has also been noticed in the light coloured variety. Should such slight precipitate appear, it is not to be assumed at once that gummy or mucilaginous adulteration is present. Gum cannot be incorporated with opium without prolonged trituration, in which case the grain and texture of the drug are entirely lost, and the opium draws out like stiff mucilage. If therefore the texture be unbroken and the other physical characteristics of the drug be good, a slight precipitate, on the addition of the filtrate to alcohol, may be disregarded.

This test will reveal the presence of a large number of adulterants such as gum arabic from the *Mimosa arabica*; gum resin, or "lassa," from the *Ficus indica*, *Ficus religiosa*, *Ficus racemosa* and the *Ficus venosa*; the pulp of the bael fruit (*Aegle marmelos*), tamarind pulp (*Tamarindus indica*); and various other substances such as linseed, babool gum, the juice of the prickly pear, etc.

It is not ordinarily necessary to apply any test to a sample of opium suspected of being adulterated with substances containing tannic acid, as the brick red colour of the filtrate is a certain indication of such adulterant, but should there be doubt and a test be required, the one generally used is a solution of isinglass. Fill a glass test tube half full of the solution, freshly prepared, and allow a few drops of the filtered decoction of opium to fall into it. If tannic acid is present a pinkish grey precipitate will make its appearance. This test can be confirmed by treating a few drops of the opium filtrate with a solution of the sulphate of iron on a white plate. The action of the sulphate on the tannic acid will cause a black colour which will be persistent. If the filtrate from good opium be treated with the same solution of iron, only a temporary blackness will be produced, passing through shades of brown to red, caused by the formation of meconate of iron. The substances that would be revealed by this test are catechu (*Acacia catechu*); gab fruit (*Embryopteris glutinifera*); the betel-nut (*Arca catechu*); and the various extracts from gall nuts, the pomegranate, etc.

Raw cane sugar and treacle may be mixed with opium in considerable quantities without materially altering its appearance; in fact, with the effect of improving its colour when this is dark from admixture of pasewa. The practised examiner, however, will soon detect the presence of these substances by their smell and their peculiar adhesiveness to the fingers. When they are suspected, a safe test to be applied is the copper test in the form of Fehling's solution which is supplied from the Factory.

To use it in testing for cane sugar and its derivatives in opium, add to a small quantity, say two teaspoonful of the filtered decoction of opium in a test tube 2 or 3 drops of dilute sulphuric acid, and boil for a few minutes; then add excess of potassic hydrate, and then the copper solution. If sugar be present there will be a yellow, orange or red precipitate of cuprous oxide.

A simple method of ascertaining the presence of saccharine adulteration is to dry a portion of the suspected opium upon a plate placed upon a little sand over the top of an iron stove. As the desiccation of the specimen proceeds the smell emitted by heated sugar will be observable, and the residue instead of presenting the usual appearance of a yellowish brown powder will remain dark and sticky, and at last will fry into hard bake.

Having completed the above tests of the filtrate under examination, attention should next be turned to the marc upon the filter which will contain any impurities not soluble in water which may chance to be in the drug; and for the purposes of examination the contents of the filter should be emptied out on a white plate. In pure and well-prepared opium the marc, which is made up of the caputious

Information derivable from the marc.

and resinous constituents of the drug, forms a bulky soft mass of granular texture; when much pasewa is present, the marc will be diminished in bulk, and it will also lose to a certain extent its loose granular character, and will become more compact and viscid. The colour of fresh marc under ordinary circumstances is a dull yellow. In the case of opium from new and high land, the colour is a bright gamboge yellow, and in drug of an opposite character, and containing much pasewa, the colour is a dark brownish yellow inclining to brown.

In cases of deterioration or adulteration, the colour of the marc may vary from the above through all the different shades of brown to black. If the specimen contain much farinaceous matter, the granular character of the marc will be lost; its bulk will be much increased, and it will form a homogenous mass of precisely the same character and texture as paste made from flour. This character of the marc joined to imperfect or totally suspended filtration, and the blue reaction with the iodine solution will form an accumulation of evidence rendering the detection of farinaceous adulteration easy and certain above almost every other.

The next step is to add cold water gradually to the marc, and to break it up completely by means of a spatula, examining it carefully at the same time either by the naked eye, or still better by the aid of a magnifying glass.

Normal character of marc and water.

In pure and well-prepared opium, the marc should diffuse completely and equally through the fluid in the form of light curdy flakes; and when the mixture is decanted quickly, after being briskly stirred, the whole should run off without leaving any sediment in the plate. If the drug contain much pasewa this flaky or curdy appearance of the marc will be diminished, and the flakes will be small and dark coloured. When water is first added to the marc under these circumstances, it may have the appearance of containing mud, but as the mixture is stirred, the whole marc will become equally diffused and suspended in the fluid in small curdy flakes, and on decanting the mixture briskly, no sediment will remain.

If any powdery sediment be observed in the above manipulation, it would probably denote adulteration. Sometimes the marc appears extremely bulky, and is filled with air bubbles, causing it to float in masses on the surface of the water.

Abnormal character of marc and water.

This results from fermentation either caused by the crude juice having been confined in close vessels without inspissation, or by water having been mixed with it.

By the careful examination of this mixture of marc and water, a very large class of adulterating substances will be revealed. When poppy petals or tobacco leaves have been pounded up with the drug, portions which have escaped destruction will be found floating in the liquid; fragments of poppy capsules, of stems of leaves, and of flowers of plants, seeds of various descriptions, fragments of charcoal, soot, mud, earth, brick dust, and all other insoluble impurities will be readily revealed, the lighter ones being observed floating in the water, as it is poured off along with the diffused marc, the more ponderous ones remaining in the plate as a sediment after decantation. If the specimen under examination contain oil of any description or ghee, these substances will be observed floating on the surface of the liquid in which the marc has been diffused, with small particles of this latter entangled with them.

There are certain adulterations which, from their peculiarly pungent and penetrating smell, reveal their presence on the most cursory examination. The peculiarly offensive odour of opium adulterated with impure carbonate of soda (sajji-matti) is unmistakable. Tobacco, which is not an

Impurities distinguished by their own special characteristics.

unfrequent article of adulteration, can generally be detected by its powerful smell alone. The smell of ghee and of most of the Indian oils is so powerful, that it is usually sufficient of itself to reveal the presence of those substances. Confirmatory evidence, however, in such cases should be obtained by drying a small portion of the specimen on a plate in the manner followed in assaying opium. If either ghee or oil be present, the residue instead of appearing as a dry powder of a yellowish brown colour, will be oily or greasy and more or less black, and it will not be possible to dry it to the state of powder.

It is necessary to direct special attention in the examination of opium, to a medium of adulteration which has been largely adopted within recent years by the cultivators of certain districts of the United Provinces. The adulterant used is soapstone, scientifically known as steatite, a silicate of magnesium and aluminium; its native name is *sang-zarahat*. This stone is obtained in lumps, and is of a greyish white colour; it has a greasy feel and when finely powdered resembles French chalk and is practically impalpable.

The characteristics which make it a good adulterant are:—

- (i) its immunity from a direct and simple chemical test, as there are no known colour reactions, or precipitation tests of a simple nature, apart from chemical analysis, to fix the constituents;
- (ii) the unusually high specific gravity of the substance, which adds considerably to the weight of the opium adulterated;
- (iii) the smoothness in feel, due to the greasiness of the adulterant.

On the other hand, the adulterant is not one which can be easily overlooked, when it has once been recognised and studied. It imparts the following peculiar characteristics to opium adulterated with it:—

- (i) it makes it doughy to the feel;
- (ii) it adds to its weight, which is perceptible in the handling of the drug;
- (iii) when rubbed down on a plate, the drug runs with broken and irregular fracture, and not with a smooth surface;
- (iv) grits are frequently present, and these are noticeable, when the drug is rubbed down lightly on a plate, by their comet-like appearance;
- (v) the colour of the drug is heightened to a brighter chestnut;
- (vi) the natural lustre of opium is somewhat deadened.

The above peculiarities are present in a more or less marked degree according to the proportion of adulterant used.

Soapstone adulteration can very readily be mistaken for poppy seed or finely powdered leaf when the opium is examined by hand, as even with ordinary pressure, any grits, if present, will soon rub down into a smooth surface. Between glass slips the drug has a speckled appearance, resembling the greyish specks natural to poppy seed adulteration; but when the film between the glass slips is examined with a magnifying glass, the specks assume more or less an opalescent, or even a translucent character, due to the particles of soapstone which are distributed in irregular shaped minute forms and laminae. Under the microscope these particles are easily distinguished from the crystals natural to opium. The latter form a network of needle-like crystals evenly distributed; the former lie about in clusters, or even in solitary pieces, with fractured edges, like so many broken columns, pieces of rock, or flat irregular plates, and appear to be superincumbent on the groundwork of natural crystals. The adulterant is of a peculiarly insidious character, especially when mixed with low consistence drug, which masks it in a greater degree than drug of 70° consistence and above.

Amicroscope is undoubtedly the safest means for its detection, but it is too delicate an instrument to be handled by officers at time of weighments when the pressure of work is great. When abnormal appearances, such as those enumerated above, are noticed in the examination of the drug, a free use of glass slips and of a magnifying glass of sufficient power should satisfactorily remove all doubts as to the existence or otherwise of the adulterant.

There is an extensive class of adulterants composed of extracts and the inspissated juice of various plants such as the prickly pear (*Opuntia vulgaris*); the datura (*Datura ferrox*); the hemp (*Cannabis indica*); the *mādar* (*Calotropis gigantea*); the tobacco (*Nicotiana tabacum*), which will not be detected by the ordinary chemical tests. Most of these substances, when they do not reveal themselves by their odour, so effectually destroy the characteristic appearance of opium when thoroughly incorporated with it that to an experienced examiner their presence will be self-evident. In dealing therefore with opium delivered by cultivators, the most careful scrutiny of the texture, colour and aroma of the parcel under examination is imperatively called for, as a safeguard against the fraudulent deliveries of adulterated drug.

Impurities which cannot be revealed by chemical test.

APPENDIX F.

[See Chapter I, Rule 9.]

Rules prescribing the procedure to be followed in proceedings connected with the dismissal, removal or other punishment of officers in the service of Government as given in Section VIII, Chapter III, pages 70 et seq. of the Board's Rules, 1902.

Procedure in cases of dismissal or removal.

Orders of the Government of India on the subject will be found in Appendix D.

Procedure in departmental inquiries.

rules, and shall include—

(i) No orders shall be passed inflicting upon any servants of Government the punishment of dismissal or removal, or in the case of servants of Government drawing more than Rs 10 a month, of reduction to a lower grade of pay, without the preliminary of a departmental enquiry.

(ii) The record of such departmental inquiry shall consist of a proceeding in the Form appended to these

- (a) The framing of specific charges in writing against the Government servant concerned, of which he shall be furnished with a copy, and which he shall be called on to explain.
- (b) The record of a memorandum of the evidence of the witnesses examined (if any). Such examination should, if there be no special reason to the contrary, be conducted in the presence of the accused, who should be given an opportunity of questioning the witnesses. Except under very special circumstances, no pleader or agent should be allowed to appear either on behalf of Government or the accused, either before the officer who conducts the enquiry or any officer to whom appeal may be made.
- (c) A reasonable opportunity to the accused of adducing his defence which shall be reduced to writing, also the record of a memorandum of the evidence of any witnesses adduced by the accused in so far as their evidence may be relevant to the charge against him.
- (d) A recital of the accused's previous character as recorded in his service book or in the office records.
- (e) A clear and definite finding upon each of the charges originally framed against the accused.
- (f) A clear and definite finding as to the punishment to be inflicted.

(iii) When the orders for punishment are passed by an authority other than the person conducting the enquiry into the conduct of the Government officer concerned, it will be sufficient if the authority passing orders of punishment definitely records his agreement (or disagreement) with the person by whom the enquiry was conducted.

(iv) The record is to be prepared as the case is gone into: it is not to be written by a clerk after the case has been decided.

(v) When any orders of punishment have been passed, the officer punished shall be entitled to receive a copy of the order of punishment free of cost, and shall also be allowed to take a copy of the rest of the record, paying for the copy at the usual copy rates or providing his own paper and copyist.

(vi) The special attention of all officers is drawn to rule (viii) below, prescribed under the authority of the Government of India. In accordance therewith they should base their findings and orders of punishment upon facts and inferences appearing in, or deduced from, the record, and the judgment should not contain confidential matters or deal with persons or topics not directly concerned with, or at issue in, the proceedings. With regard to such matters, which properly form the subject of separate correspondence, rule 23, Section IX, page 26 of the Records Manual, will apply.

(vii) The above instructions will not apply in the case of public servants (1) who are judicially convicted of a criminal offence and are dismissed or otherwise punished solely with regard to the finding of the Court, or (2) who abscond with an accusation pending against them.

(viii) (a) As a rule only the substance of a decision should be communicated to the officer concerned with such statement of the grounds upon which it is based as may be necessary for the information of the officer, and may be considered expedient having regard to the circumstances of the case; (b) despatches from or to the Secretary of State, and correspondence indicating a difference of opinion between the Local Government and the Government of India should only be communicated with the express permission of the Government of India.

(ix) An appellate authority should ordinarily deal, as is customary, with those points only that are raised or pressed in the appeal.

(x) When the Board call for a report in cases of appeal or revision, in which public officers have been removed or dismissed from the service of Government, the Commissioner should invariably submit the original proceedings (or copies of the written charge, defence, and decision thereon) which are required by rule (ii.)

(xi) Every petition of appeal by a Government servant against an order of his superior officer is to be submitted to the appellate authority through the officer against whose order the appeal is made. The Board have directed that such petitions of appeal shall invariably be forwarded to the appellate authority within three days of their presentation, with any observations thereon which the officer forwarding them may wish to offer.

(xii) Cases occasionally occur in which it is considered inexpedient to undertake the prosecution of Government servants who are dismissed on account of offences for which they are liable to be criminally prosecuted. In future in such cases, the reasons which render it inexpedient to undertake a criminal prosecution should be recorded at the time that the order of dismissal is passed. When there is no objection to such a course, the reasons should be included in the order of dismissal, of which the dismissed servant receives a copy; but in every case a copy of the recorded reasons for not instituting a prosecution when the offender was liable to one should be forwarded with any report that may afterwards be made on the case to the Board or to Government.

2. The accompanying form referred to in rule (ii) above can be obtained on indent from the Controller of Stationery.

APPENDIX.

CHAP. III.]

PROCEEDINGS.

Instructions for drawing up Proceedings.

The following sequence will be observed :—

- | | |
|---|-------------------------------------|
| (1) <i>Name, rank, and grade</i> of officer proceeded against. | Against |
| (2) Each <i>offence</i> charged to be explicitly set forth (pages to). | |
| (3) A memorandum of <i>evidence</i> to be recorded. | |
| (4) <i>Defence</i> . This must be reduced to writing. If a written defence is submitted, it will form part of the record. | Commenced |
| (5) <i>Remarks</i> . Here record comments on the evidence (pages to). | Concluded by District Officer _____ |
| (6) <i>Character</i> of the accused [Rule 16 (d), Section VIII, Chapter III of the Board's Rules, 1902] (pages to). | Concluded by Appellate authority |
| (7) <i>Order</i> will be recorded in the form prescribed (pages to). | |
| (8) <i>Orders</i> , if any, regarding subsistence allowance, service for pension. | Order of District Officer |

N.B.—If it is decided to prosecute, this will be noted as a preliminary order, the final order being recorded when the judicial proceedings, including appeal, have been disposed of.

DISTRICT OFFICER'S ORDER.

Final order of Appellate authority

District Officer.

Dated

COMMISSIONER'S ORDER.

Date of issue of copy of order by District Officer _____

Commissioner.

Dated

'An appeal against this order lies to _____ (Rule 11, Section VIII, Chapter III, page 69 of the Board's Rules, 1902).

"It must be made within 30 days from _____ (Rules 5, 8 and 10, Section I, Chapter III, pages 55 to 57 of the Practice and Procedure Manual, 1902).

As to copy of rest of Record, see Rules 15 to 17, Section VIII, Chapter III, pages 70 and 71 of the Board's Rules, 1902.

A copy of the Appellate order will be filed with the proceedings.

NAME, RANK, AND GRADE OF OFFICER PROCEEDED
AGAINST.

CHARGES.

[Charges must be specific. Each charge should be drawn up and separately numbered and should give the date, occasion, and nature of the offence committed. A copy should be given to the Officer charged.]

No.	Particulars of charges.

EVIDENCE.

[A memorandum of evidence to be recorded. Where the full statements of witnesses have been recorded in English or the vernacular, they should be attached to the proceedings.]

Charge No.	Particulars of evidence.

DEFENCE.

[This may be recorded in abstract, the full defence, if one is submitted in writing being attached to the proceedings.]

[If the Officer charged can write, he should be permitted to submit his defence in writing. In cases of illiterate men, the District Officers may record the defence.]

Charge No.	Plea.

REMARKS.

[Here record comments on the evidence and defence.]

Charge No.	

CHARACTER.

[Date of appointment, punishments and rewards to be noted.]

ORDER.

[Will be recorded in the form prescribed. Orders, if any, regarding subsistence allowance service for pension, etc., should be given.]

Charge No.	Finding and sentence by District Officer. The attention of District Officers is drawn to Rules 15 (e) and (f) and 19 in Section VIII, Chapter III, Board's Rules, 1902.

ORDER OF THE COMMISSIONER OR OTHER APPELLATE
COURT.

APPENDIX G.

[SEE CHAPTER I, RULE 2A].

Rules for the training of candidates for the Factory Superintendships.

1. Every Assistant Opium Agent, who is a candidate for appointment as Factory Superintendent at Patna or Ghazipur will, in future, be required to undergo a course of training (as set forth in Appendices A and B to these rules) at the Sibpur Engineering College.

2. No candidate will be allowed to proceed to Sibpur who has not served for at least one year as Assistant Factory Superintendent, and has not been certified by the Agent concerned to be possessed of general tact and intelligence, and to be of active habits and able to manage subordinates.

3. The selected candidates will be deputed to the Sibpur Engineering College for a total period of about 7 months, extending over two cold seasons, for the purpose of the necessary training.

4. No candidate will be allowed to present himself for the second term of training who has not acquitted himself satisfactorily during the first.

5. At the close of the course of training an examination will be held under the supervision of the College authorities.

6. No tuition fees shall be payable to the Sibpur Engineering College by any Opium officer deputed to Sibpur under these rules.

~~7. The deputation for the proposed training will be counted as service on full pay, subject to the reservation that if a candidate fails to qualify, his absence during the first, or both, terms, as the case may be, will be reckoned as leave on half pay.~~

8. There is no guarantee that the satisfactory completion of the course will entitle an officer to obtain a post of Factory Superintendent, but appointments to that post will be made by selection from among qualified candidates.

APPENDIX A.

Syllabus of the minimum knowledge of Chemistry required for the appointment of Factory Superintendent at Patna or Ghazipur.

1. A sound general knowledge of the more elementary principles of inorganic chemistry, including the fundamental laws, composition and nomenclature of simple compounds, and a very elementary acquaintance with the theory of solutions and its application to precipitation and analytical work.

2. A more detailed knowledge of the chemistry of ammonium, sodium, potassium, calcium, iron, aluminium, and silicon as regards their common compounds, and of carbonic, sulphuric, nitric, and hydrochloric acids, and water. A knowledge of the impurities in natural waters, boiler scale, and methods of softening and purifying waters.

3. A very elementary knowledge of the chemistry of carbon compounds, including particularly the simplest acids, amines, and alkaloids, and some acquaintance with the common sugars and starches and gums.

4. A practical knowledge of qualitative analysis, so far only as required for the detection and separation of substances mentioned or referred to in 2 and 3.

5. A competent knowledge of very simple quantitative work, with a more complete and detailed knowledge of the methods used in connection with opium alkaloids, including volumetric methods.

6. Ability to prepare any re-agents required in the practical work as defined, and to test them for purity.

7. Some elementary knowledge of the use of the polarimeter, and of the methods of microscopical analysis, particularly of starches.

8. A knowledge of the use of alcohol, ether, and benzene in extraction work, with special reference to the separation and purification of alkaloids.

9. A knowledge of the methods of sampling for analysis.

10. The discussion and interpretation of analytical results, together with calculations based thereon.

APPENDIX B.

Syllabus of the requirements in Mechanical Engineering to qualify for the appointment of Factory Superintendent at Patna or Ghasipur.

A practical workshop training supplemented by so much theoretical instruction as is found to be necessary to thoroughly understand :—

- (1) The preparation of wood for small work, jointing and testing joints.
- (2) The use of wood-working tools and machinery and the sharpening and repair of the same.
- (3) Practical steam-raising and the consumption of fuel, with the necessary calculations and methods of checking consumption.
- (4) The measurement and mensuration of timber.
- (5) The details of workshop management.

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